Attachment to Submission BO069 (Gary A. Patton, Citizens for California High-Speed Rail Accountability (CCHSRA)(Atty. for), Wittwer & Parkin LLP, October 13, 2011) - 1344 Patton letter 101311_Attachments.pdf - Continued

technical material, and to provide comments, all within a 60-day period. In fact, the volume of material that must be reviewed is probably close to three times that amount.

When the draft EIR/EIS documents were first released for public comment, CCHSRA promptly requested the Authority to provide a 90-day opportunity to comment on the Fresno to Bakersfield Draft EIR/EIS. The Authority did not honor that request. Without responding directly to CCHSRA, the Authority staff *did* revise the initial 45-day comment period announced upon release of the two Draft EIR/EIS documents, and added 15 days to the comment period for these documents, establishing the current 60-day comment opportunity. As the attached letter so convincingly demonstrates, a 60-day comment period is grossly inadequate. CEQA, and the CEQA Guidelines, and basic due process, require a much more extensive comment period.

CCHSRA and its members can attest that this due process problem is not merely "theoretical." Currently, CCHSRA and its members are working as diligently as they possibly can to review the 17,000-page Draft EIR/EIS for the Fresno to Bakersfield segment, and to relate this document to the Draft EIR/EIS for the Merced to Fresno segment and to the statewide Programmatic EIR. While the CCHSRA and its members are able to identify concerns and impacts that the proposed project will have on an area they know well, they are finding it incredibly difficult to prepare well-researched and substantiated comments on the Draft EIR/EIS documents, in view of the massive nature of the documents they are being asked to review and the very short comment period currently provided. This is particularly true since this is a time when many of the farmers most directly affected by the proposed plan in the Fresno to Bakersfield segment are preparing for an upcoming harvest. This makes it even more difficult to find any time to read, absorb, and then respond to the voluminous EIR/EIS documents.

A 60-day comment period does not provide the public with an "adequate" time to comment, and the failure of the Authority to provide an adequate time to comment undermines the integrity of the current environmental review procedure. This means that the residents, business persons, and landowners most directly affected by the proposed project are being denied an elemental due process opportunity to "be heard" before the government takes actions that could, in many cases, put working farms and dairies out of business along the proposed Fresno to Bakersfield segment.

Having an adequate opportunity to provide comments is of such great importance to CCHSRA and its members that CCHSRA was in the process of organizing its members to attend the scheduled September 22, 2011 Authority Board meeting, to make a personal appeal to the Authority Board to extend the current comment period, as we request in this letter. References to that scheduled September 22, 2011 Board meeting were posted on the Authority's website as late as Sunday, September 11th, but the September 22nd meeting was then apparently "cancelled," and all references to the meeting were removed from the Authority's website, by Tuesday, September 13th.

Because there is no regular Board meeting scheduled prior to the current comment deadline on October 13th, we request that Authority immediately schedule a special meeting of the Board directly to address this pressing request for a six-month review period.

As CEQA provides, at Public Resources Code Section 21005 (a):

> The Legislature finds and declares that it is the policy of the state that noncompliance with the information disclosure provisions of this division which precludes relevant information from being presented to the public agency, or noncompliance with substantive requirements of this division, may constitute a prejudicial abuse of discretion within the meaning of Sections 21168 and 21168.5, regardless of whether a different outcome would have resulted if the public agency had complied with those provisions.

The information in the comments that CCHSRA and its members want to supply through their comments is absolutely "relevant information." We urge the Authority to take seriously its responsibility to make sure that such relevant information about the impacts of the proposed project is presented to the Authority, as the public agency responsible for making routing and related decisions on the proposed high-speed train project in the Central Valley, prior to the Board's decision. The current 60-day review period is not fair, and is inconsistent with both CEQA and the due process requirements of the California Constitution. Unless it is extended, the Authority will not receive all the relevant information it needs to know about, before making a decision on the largest public works project ever proposed in the State of California.

In conclusion, we ask the Authority for a six-month period to comment on environmental review documents. Failure to provide an adequate comment period is a violation of both the law and due process.

Very truly yours,

Gary A. Patton, Of Counsel\
WITTWER & PARKIN, LLP
Attorneys for Citizens for California HSR Accountability

cc: Governor Jerry Brown
Members and Supporters, CCHSRA
Members, California State Legislature
Kings County Board of Supervisors
City Officials in Kings County
J.G. Boswell Company
Other Interested Persons

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September 8, 2011

VIA UPS NEXT DAY AIR SAVER
TRACKING NO. 1Z F74 78R 13 9995 0584

Board of Directors
CALIFORNIA HIGH SPEED RAIL AUTHORITY
770 L Street, Suite 800
Sacramento, CA 95814-3359

Re: Extension of Draft EIR/EIS Comment Period - Fresno to Bakersfield HSR
SCH # 2009091126

Dear Chairman and Members of the Board:

This letter is submitted on behalf of J.G. Boswell Company. The purpose of this letter is to request an extension of the comment period on the above Draft EIR/EIS for at least 6 months, through mid-February 2012.

The existing comment period is grossly inadequate and denies due process to those seeking to comment on the EIR/EIS. The initial 45 day comment period, later extended only 15 additional days to October 13, 2011, is plainly insufficient to allow any meaningful comment on 17,000 pages of documents.[1] See Appendix A for list of documents and page lengths. The 17,000 page total does not include any documents for the Merced to Fresno segment (SCH # 2009091125), which would bring the total to over 30,000.

The EIR/EIS is not user friendly. For example, Chapter 10 of the EIR/EIS lists 831 sources that are referenced in the report. In instances noted so far, these sources are referenced without internal citations, requiring the reviewer/commenter to obtain the document, review it, and make a judgment as to which part was intended to support the citation in the EIR/EIS. This lack of

[1]It also appears the EIR/EIS and supporting documents are available in English only.

specific citations makes it difficult to determine whether a statement made in the EIR/EIS is supported by substantial evidence.

Due to the requirements of CEQA,[2] meaningful public comment is the key phase of the CEQA public review process. The CEQA process becomes a sham without it, and results in a denial of due process.

In 2004 the Authority released the Draft Program EIR/EIS for the Proposed California High-Speed Train System (SCH #2001042045). The State Clearinghouse set a review period of February 13, 2004 to August 31, 2004, or 6 1/2 months, for this Program EIR/EIS. It neither makes sense, nor is there any good reason, why the review period for the Program EIR/EIS was more than 6 1/2 months while the review period for the much more detailed Project specific EIR/EIS is only 2 months.

In view of the above, we believe that at least a 180 day comment period is required, ending mid-February 2012 as measured from August 15, 2011. This matter requires Board, rather than administrative, attention, and, accordingly, we request this matter be placed on the agenda for a special meeting at the Board's earliest convenience. As the Board's next regularly scheduled meeting is not until September 22, 2011, the urgency of this issue demands it be dealt with before then.

We understand that the EIR/EIS was released on August 9, 2011. The orginial comment period was for 45 days, beginning August 15, 2011 and ending September 28, 2011. This time limit was apparently set by staff without Board involvement. The 45 day period is the minimum under CEQA Guidelines § 15105(a). This time period makes no allowance for the unparalleled scope of the project.

At the August 25, 2011 Board meeting, a petition signed by about 300 Kings County residents was submitted by Hanford-area farmer Frank Oliveira on behalf of the Citizens for California High Speed Rail Accountability (CCHSRA). These citizens asked for a 45 day extension, making for a total of a 90 day review and comment period. The request was not on the Board's meeting agenda, but staff did grant an additional 15 days to the original 45 day comment period for a total of 60 days. The comment period now ends October 13, 2011 which corresponds to the end date of the State Clearinghouse (SCH) review period.

[2]All statutory references to CEQA are to Public Resources Code §§ 21000 et. seq. CEQA's implementing regulations are known as the "CEQA Guidelines" and are set forth at 14 Cal. Code Regs. §§ 15000 et seq., and are referred to as "CEQA Guidelines § _____" or as "Guidelines § _____."

Attachment to Submission BO069 (Gary A. Patton, Citizens for California High-Speed Rail Accountability (CCHSRA)(Atty. for), Wittwer & Parkin LLP, October 13, 2011) - 1344 Patton letter 101311_Attachments.pdf - Continued

The High Speed Rail (HSR) project is the largest and most expensive infrastructure project in the history of the State of California and even its component parts -- the Fresno to Bakersfield segment, or the Merced to Fresno segment, -- could fairly be estimated to be the largest infrastructure projects in State history, and certainly in the history of the San Joaquin Valley.

As stated above, the EIR/EIS for the Fresno to Bakersfield segment, select supporting documents, and technical data available at the Fresno-Bakersfield EIR/EIS web page consist of 17,000 pages (See Appendix A). Not all the documents referenced in the EIR/EIS are available at that web page. If one includes the EIR/EIS and related documents for the Merced to Fresno segment, the total pages to be reviewed approaches 30,000 or more. The sheer volume of material necessitates a significant extension of the review and comment period. Two basic reasons support the extension; these reasons are explained below.

I. THE SIXTY DAY REVIEW PERIOD FAILS TO MEET CEQA REQUIREMENTS BECAUSE IT FAILS TO PROVIDE AN "ADEQUATE TIME" TO REVIEW THE MASS OF MATERIAL ONLY LATELY RELEASED FOR PUBLIC REVIEW AND COMMENT.

CEQA Guidelines § 15203 states:

> "The lead agency *shall* provide **adequate time** for other public agencies *and members of the public to review and comment* on the draft EIR or negative declaration that it has prepared." (Emphasis added.)

Adequate time is required not only because "Public participation is an essential part of the CEQA process" (CEQA Guidelines § 15201), but because the Legislature has declared that the purposes of the review period include:

(a) Sharing expertise;
(b) Disclosing agency analysis;
(c) Checking for accuracy;
(d) Detecting omissions;
(e) Discovering public concerns; and
(f) Soliciting counter proposals.

CEQA Guidelines § 15200.

The Legislature has declared:

> "The maintenance of a quality environment for the people of this state now and in the future is a matter of statewide concern." Pub. Res. Code § 21000(a).

And:

> "Every citizen has a responsibility to contribute to the preservation and enhancement of the environment." Pub. Res. Code § 21000(e).

There can be no question that CEQA and the CEQA Guidelines were developed to allow the public every possible opportunity to meaningfully participate in the EIR/EIS process.

Given the mere 60 day review period, none of the purposes of EIR/EIS review and comment can be served, for the following two major reasons:

1. **The time for review that the Authority has chosen does not allow the public "adequate time" for public review and comment, as required by CEQA Guidelines § 15203. To examine some 17,000 pages within 60 days requires a person to read 283 pages per day and no time to prepare responsive comments. The initial review period of 45 days was simply more egregious and required 378 pages per day to be read.**

In comparison, a 45 day EIR review and comment period was recently used for an ordinance by the City of Sunnyvale to prohibit single use plastic bags at grocery stores. (See City of Sunnyvale Single-Use Carryout Bag Ordinance Draft EIR, SCH #2011062032 August 2011). That EIR consisted of 210 pages which amounts to reviewing 4.6 pages per day. The High Speed Rail Authority (Authority) expects 61 times more effort per day just to read the mass of CEQA documentation for the Fresno to Bakersfield HSR project.[3] Such an expectation is unrealistic, unfair, and does not meet the requirement of CEQA to have adequate review period. At the "plastic bag ordinance" rate of 5 pages per day, the review period for the 16,953 pages of the Fresno-Bakersfield HSR EIR/EIS would be 3,391 days or about 9.3 years (16,953 pages x day/5 pages = 3,391 days x 1 year/365 days = 9.289 years).

These simple metrics, of course, in no way imply that the Fresno-Bakersfield HSR project is in any way comparable to Sunnyvale's plastic bag ordinance project. The former is an infinitely

[3]Also this does not include the EIR/EIS for the Merced-Fresno segment.

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more complex project proposing vast, irreversible commitments of public and private resources on the largest scale in the history of the San Joaquin Valley.

Persons who wish to comment and share their expertise, provide analysis, check for accuracy, voice their concerns, and prepare counter proposals will never be able to do so because they will never be able to review all the documents and comment in a mere 60 days.

2. **While the regulations typically allow for a 45 to 60 day comment period, the regulations also allow that time to be exceeded, without the need to otherwise stop the project, in "unusual circumstances." CEQA Guidelines § 15105(a). The HSR certainly qualifies as an unusual circumstance. In no way can the HSR project be compared to other projects in the history of the State of California and the San Joaquin Valley. Therefore, the 60 day period must be extended.**

The Legislature has declared:

> "... it is the policy of the state that projects to be carried out by public agencies be subject to the same level of review and consideration [under CEQA] as that of private projects required to be approved by public agencies." Pub. Res. Code § 21001.1.

A private company would never be allowed to undertake a project of this magnitude and be subject to a mere 60 day review period. Given the scope of the project, it is difficult to imagine that there could be a more "unusual circumstance" that would allow the typical comment period to be extended.

The "unusual circumstances" provision of CEQA Guidelines § 15105(a) gives the lead agency the necessary flexibility to set the comment period consistent with the meaningful public participation and due process goals of CEQA. This flexibility eliminates the absurdity of a "one size fits all" rule which would provide equal 45 day review and comment periods to the Sunnyvale plastic bag ordinance and the Fresno to Bakersfield HSR project. Nor must we omit that the review and comment period for the Merced to Fresno Draft EIR/EIS runs concurrently, compounding the insufficiency of the alloted time.

The Legislature has also declared that it is the policy of the state that:

> "Documents prepared pursuant to [EIR requirements] be organized and in a manner that will be meaningful and useful to decisionmakers and to the public." CEQA Guidelines § 21003.

Given the sheer volume of the documentation, in order to make the documents "meaningful and useful" there must be adequate time to review them. With only 60 days, neither the decisionmakers nor the public can make the determination of whether the EIR/EIS documents satisfy that criteria because there is insufficient time to so do.

The Authority claims transparency in its proceedings but this claim rings hollow at this crucial juncture. The Authority's "Environmental Review Fact Sheet" states:

> "The California High-Speed Rail Authority (CHSRA) and the Federal Railroad Administration (FRA) are the state and federal agencies responsible for the environmental review of the state's high-speed train system, **and together they have implemented a more transparent, collaborative and inclusive approach to the EIR/EIS process than is typical or required**, with state and local planning agencies, local communities and the general public integrated into the entire process." (Emphasis added.)

This statement is not true as to meaningful public participation and satisfaction of due process. The key point in the CEQA process is at hand and the 60 days allotted to review and comment on 17,000 pages of material for the Fresno to Bakersfield segment stacks the deck against the commenting parties. The point is exacerbated when the additional thousands of pages for the Merced to Fresno EIR/EIS are added.

II. THE SIXTY DAY REVIEW PERIOD DENIES DUE PROCESS TO INTERESTED PARTIES DUE TO THE LENGTH AND COMPLEXITY OF THE ENVIRONMENTAL DOCUMENTS FOR THE FRESNO-BAKERSFIELD HSR.

Any review period less than six months raises serious constitutional issues. The public is entitled by statute and regulation to have a meaningful review. By only allowing 60 days to review 17,000 pages of documents associated with the Fresno to Bakersfield EIR/EIS, the Authority has essentially made the public review meaningless. The Legislature has allowed the public to participate in the CEQA process as a participant and not just a spectator. By bombarding the public with documents without any hope for a complete review, the Authority has put the public on the sidelines, and due process will be violated should there be no extension.

Rights granted by CEQA must allow the public to have a meaningful review because the Legislature has recognized that "Every citizen has a responsibility to contribute to the preservation and enhancement of the environment." Pub. Res. Code § 21000(e).

CEQA was enacted in 1970 and provides a detailed process for public review. It is a "powerful tool for citizen action and government accountability." Note, The Timber Harvest Plan

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Exemption from the California Environmental Quality Act: Due Process and Statutory Intent, 41 Hastings L.J. 727, 730 (1990). In fact, the purpose of the EIR/EIS is:

> "... to provide public agencies and the public in general with detailed information about the effect which a proposed project is likely to have on the environment; to list ways in which the significant effects of such a project might be minimized; and to indicate alternatives to such a project." Pub. Res. Code § 21061.

Courts have called the EIR/EIS an "environmental 'alarm bell' whose purpose is to alert the public and its responsible officials to environmental changes *before* they have reached ecological points of no return." Santiago County Water District v. County of Orange, 118 Cal.App.3d 818, 822 (1981). To accomplish this purpose, CEQA statutes and regulations require that the public be made part of the process, including:

- Comments be accepted by the public at anytime during the EIR/EIS process (Pub. Res. Code § 21003.1(a));
- The lead agency must respond, in writing, to all comments received during the comment period (Pub. Res. Code § 21004);
- Relevant information should be made available as soon as possible to the public (Pub. Res. Code § 21003.1(b));
- Notice must be given to all those who have requested such when the draft EIR/EIS is complete (Pub. Res. Code § 21092);
- Draft EIR/EIS documents should be made available in local libraries (CEQA Guidelines § 15087(g));[4]
- The Public agency must publish notice in a paper of general circulation in the area of the proposed project (CEQA Guidelines § 15087(a));
- Public hearings on the documents are encouraged (CEQA Guidelines § 15087(i)); and

[4]Note that the Technical Appendices to the EIR/EIS, listed as nos. 4-43 on Appendix A, were not made available at local libraries. This is important because the appendices are referenced throughout the EIR/EIS.

- **An adequate public review period is required and can be extended in unusual circumstances** (CEQA Guidelines § 15105) (emphasis added).

CEQA regulations take public participation so seriously that the process provides grounds upon which judicial review of the project may be obtained. CEQA Guidelines § 15112.

Because public review and participation is expressly granted by statute and regulation, any review period less than six months raises serious constitutional issues under the circumstances. The public is entitled by statute and regulation to have a meaningful review. By only allowing 60 days to review some 17,000 pages of documents associated with the EIR/EIS, the Authority has essentially made the public review meaningless. The Legislature intends for the public to participate in the CEQA process in a meaningful way; in this case, requiring sufficient and adequate time for review. By releasing to the public a large quantity of documents without any hope for a complete much less a meaningful review, the Authority has made the public a spectator, and due process will be violated should there be no significant extension of time to review and comment on the documents.

1. **State Constitutional Issues**

The CEQA statutes and regulations, as applied, violate California Due Process requirements because the Authority has failed to provide adequate time for EIR/EIS review. In order to remedy the as applied violation, sufficient time to review the EIR/EIS must be granted.

Due process safeguards in this context are analyzed with the principle in mind that all should be free from arbitrary adjudicative procedures. People v. Ramirez, 25 Cal.3d 260, 268 (1979). A fundamental concept of due process is "the right to a reasoned explanation of government conduct that is contrary to the expectations the government has created by conferring a special status upon an individual." Id. at 276. Here, CEQA statutes and regulations confer a special status on the public by requiring meaningful review; yet the Authority has taken away that right by imposing an unreasonable review period, and providing no explanation therefor.

To determine the level of due process required, courts examine:

1. The private interest that will be affected by the official action;
2. The risk of an erroneous deprivation of such interest through the procedures used, and the probable value, if any, of additional or substitute procedural safeguards;
3. The dignitary interest in informing individuals of the nature, grounds and consequences of the action and in enabling them to present their side of the story before a responsible governmental official; and

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4. The governmental interest, including the function involved and the fiscal and administrative burdens that the additional or substitute procedural requirement would entail. Id. at 269.

The private interest here is compelling; CEQA statutes and regulations mandate that the public be allowed meaningful and adequate review of the EIR/EIS. In this respect, the Legislature has already determined that the public has a significant interest in proper review.

The risk that the private interest will be erroneously deprived is high; in fact it is happening. Although the regulations allow the Authority to declare the most expansive and expensive infrastructure project in the history of California an "unusual circumstance" and provide additional time for public review and comment, the Authority has (so far) failed to so do and without any explanation. In addition, as the Authority is well aware, the review period ends the time that individuals may comment and preserve issues that must be on the record for judicial review. By completing the review period before it is possible for stakeholders to read the documents and provide comments, the Authority is also precluding meaningful review following the final EIR/EIS being issued. Rigid adherence to the 45 or 60 day periods mentioned in Guidelines § 15105(a) therefore guarantees denial of due process for projects of the scope of this EIR/EIS.

The dignity interest weighs heavily in favor of an extension of time. It is inconceivable that the public could be charged with reading and commenting on the EIR/EIS, only to find out that it is impossible to do so because there is insufficient time to read the documents in this case.

Finally, the governmental interest in providing additional time is identical to the private interests. The Legislature has already made this determination by stating that the public is entitled to meaningful and adequate review, and putting in place an entire scheme to ensure such review occurs. The government has a significant interest in ensuring that its own statutes and regulations are followed, especially when no fiscal or administrative burdens are involved beyond the passage of time.

As the Federal Railroad Administration is the lead Federal agency designated on the HSR project, the purpose and requirements of the National Environmental Policy Act (NEPA) are also at issue. The purpose of NEPA review corresponds to CEQA review. Congress has declared, "... it is the continuing policy of the federal Government, ... in cooperation with State and local governments, and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance ... to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans." (42 U.S.C. § 4331). Therefore the purposes of NEPA also support the extension requested herein.

2. **Federal Constitutional Issues**

Due process under the federal constitution requires that an entitlement exist under state law. There can be no question that the Legislature has entitled the public to a meaningful and adequate review of the EIR/EIS documents through the CEQA statutes and regulations. It is merely a question of what process is due.

Pursuant to Mathews v. Eldridge, 424 U.S. 319 (1976), to determine what process is due, the state should look at the private interests involved, the risk of an erroneous deprivation and value of additional safeguards, as well as the governmental interest.

Again, the public's interest is high; the public is entitled to a proper review under CEQA but such a review cannot be met in such a short and arbitrary time frame currently established by the Authority. Denial of that proper review, in turn, prejudices the rights of potential litigants who are subject to the exhaustion doctrine. Denial of adequate, proper, and meaningful review stacks the deck in favor of the project proponent, who here is also the reviewing agency. This conflict of interest between the duty of full, objective CEQA review and support of the HSR project is clearly brought out by the denial of a meaningful adequate public review and comment period.

The risk that rights may be erroneously deprived is high. By the Authority arbitrarily setting the review period in this circumstance such that it is impossible for the public to respond, a deprivation is not only possible, but is a certainty where no due process was given in setting the initial review period. As the Authority knows, EIR/EIS challenges must be made on comments lodged during the review period. What the Authority has done is present to the public a large volume of documents such that there is no possibility for all necessary comments to be included in the record, effectively precluding a proper legal challenge to the EIR/EIS documents following a finalization of those documents, and denying access to the courts.

Finally, the governmental interest, as under the state due process requirements, is in concurrence with the private interest. Again, the Legislature has already made this determination by stating that the public is entitled to meaningful and adequate review, and putting in place an entire scheme to ensure such review occurs. The government has a significant legitimacy interest in ensuring that its own statutes are followed, especially when no fiscal or administrative burdens are involved.

Here, there has been no due process as to the setting of this review period. The setting of this review period for the same length for a local ordinance reflecting plastic bag usage, without an explanation or an opportunity to be heard and challenge the determination, violates the Fourteenth Amendment of the United States Constitution, as well as the California Constitution. As has been said many times, the fundamental requisite of due process of law is the opportunity to be heard, and

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that right has little reality or worth unless the public is informed and can choose for iteself whether to participate. Mullane v. Central Hanover Bank & Trust Co., 339 U.S. 306, 314 (1950). In this case, the public cannot know, and can never know under the limited review period what position and comments it should make relating to the EIR/EIS, had it been afforded an adquate review period.

"Due process is flexible and calls for such procedural protections as the particular situation demands." Mathews v. Eldridge, 424 U.S. 319, 334. In this situation, due process calls for a reasonable number of days to review the EIR/EIS and supporting documents. We ask for at least a 180 day review period, for all the reasons stated.

Very truly yours,

GRISWOLD, LaSALLE, COBB,
DOWD & GIN, L.L.P.

By: _____
ROBERT M. DOWD

APPENDIX A
LIST OF REPORTS
COMPRISING FRESNO TO BAKERSFIELD
DRAFT EIR/EIS
AND SUPPORTING DOCUMENTS

Below is a list of the documents posted at the HSRA web page for the Fresno to Bakersfield EIR/EIS (nos.1-3) and related documents (nos. 4-43), with their page counts. The purpose of the compilation is to show the inequity and lack of due process afforded by the 60 day public review and comment period. Note that item nos. 4 through 43 are posted at the HSRA web page for the Fresno to Bakersfield EIR/EIS and are referred to in the EIR/EIS. However, items nos. 4-43 are not included in the EIR/EIS and are not provided on the EIR/EIS cds given out by the HSRA office in Hanford. Also, items nos. 4-43 are not available with the hard copy EIR/EIS available for public review at the HSRA office in Hanford and at the Kings County Library in Hanford.

1.	EIR/EIS Volume 1	1,556
2.	EIR/EIS Volume II	804
3.	EIR/EIS Volume III	940
4.	Transportation Analysis Technical Report Draft 8/11	242
5.	Figures for Chapters 4 and 5 above	199
6.	Appendix A Traffic Counts Data	537
7.	Appendix B Existing Synchro Output	423
8.	Appendices C through E, Future Assumed Improvements et al.	833
9.	Appendices F through I, Future Plus Project Synchro Output et al.	929
10.	Air Quality Technical Report Draft 8/11	168
11.	Air Quality Technical Report Appendix A Construction Emissions	713
12.	Noise and Vibration Technical Report 7/11	424
13.	Hydrology and Water Quality Technical Report 8/11	158
14.	Geology, Soils, and Seismicity Technical Report 7/11	92
15.	Hazardous Wastes and Materials Technical Repot 8/11	188
16.	Appendix A Regulatory Database Search Report	4,287
17.	Appendix B PEC Site Summaries w/ Sanborn Map Review	10
18.	Appendix C Historic Topo Maps	168
19.	Appendix C Sanborn Fire Insurance Maps Part 1 of 4	61
20.	Appendix C Sanborn Fire Insurance Maps Part 2 of 4	61
21.	Appendix C Sanborn Fire Insurance Maps Part 3 of 4 (Pt. 4 beg. P. 62)	107
22.	Appendix D Site Reconnaissance, Field Notes, Photographs and Photo Logs Part I	482
23.	Appendix D Site Reconnaissance, Field Notes, Photographs and Photo Logs Part II	344
24.	Community Impact Assessment Technical Report 7/11	578

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EXHIBIT B

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CALIFORNIA
High-Speed Rail Authority

Revised Environmental Report to be Issued for High-Speed Train Project, Fresno-Bakersfield Section

The California High-Speed Rail Authority (Authority) will issue a Revised Draft Environmental Impact Report (EIR)/Supplemental Draft Environmental Impact Statement (EIS) for the Fresno to Bakersfield section of the high-speed train project. **The formal comment period for the Fresno to Bakersfield section Draft EIR/EIS will still end on Oct. 13, 2011, and the revised document, to be issued in the spring of 2012, will have a separate, additional 45-day formal comment period.**

The Authority will re-introduce an alternative route, the Hanford West Bypass alternative, along with an alternative station location to serve the Kings/Tulare region. The Hanford West Bypass alternative was selected as the preferred alternative for the 2005 Statewide Program EIR/EIS, and including this alternative is consistent with input from regulatory agencies. The Authority will also investigate improvements to the existing Fresno to Bakersfield alternatives. This step will also afford additional time to review the information contained in the current Draft EIR/EIS.

Rather than issuing a Final EIR/EIS for the Fresno-to-Bakersfield section in January as previously scheduled, the Authority will now use the coming months to further engineer the additional route and new station alternative, conduct the additional environmental analyses needed and make other necessary revisions including those based on comments received through Oct. 13, 2011, after which a "Revised Draft EIR/Supplemental Draft EIS" will be issued for public comment.

Public participation is an important part of this process and the Authority looks forward to working with local communities over the coming months to address questions and provide clarification on the environmental documents and process.

Please note: only comments submitted during the official comment periods (until Oct. 13, 2011 and then again in the spring of 2012) will be treated as formal comments and subsequently responded to, in writing, as part of the Final EIR/EIS.

The Draft EIR/EIS and instructions for submitting a public comment are available on the Authority's website at: http://www.cahighspeedrail.ca.gov/draft-eir-f-b.aspx.

A schedule of workshops throughout the Fresno to Bakersfield section will be announced in the coming week, and posted on the web calendar.

Contact the Fresno to Bakersfield team: fresno_bakersfield@hsr.ca.gov

Attachment to Submission BO069 (Gary A. Patton, Citizens for California High-Speed Rail Accountability (CCHSRA)(Atty. for), Wittwer & Parkin LLP, October 13, 2011) - 1344 Patton letter 101311_Attachments.pdf - Continued

EXHIBIT C

From: "Rachel Wall" <rwall@hsr.ca.gov>
Date: Oct 8, 2011 11:12 PM
Subject: RE: CHSRA October 5th Hanford West By-Pass Press Release
To: "frank.oliveira" <frank.oliveira@me.com>
Cc: "Aaron Fukuda CCHSRA" <afukuda77@gmail.com>, "Rebecca Nicholas" <rebecca_nicholas@urscorp.com>, "Fresno - Bakersfield" <fresno_bakersfield@hsr.ca.gov>, "gapatton@wittwerparkin.com" <gapatton@wittwerparkin.com>, "Jeff Abercrombie" <jabercrombie@hsr.ca.gov>

Mr. Oliveira,

First, I apologize for any confusion stemming from the announcement – our goal was to provide information. To further that goal I hope the information below will clarify your outstanding questions. These answers were gathered in coordination with the environmental and engineering team. I have copied the appropriate team representatives so that they can take note of your questions or provide additional information as needed. Additionally, we intend to put answers to questions like these into a FAQ or similar document on our website soon. Thank you for writing and again, I hope this information is helpful.

Sincerely,
Rachel Wall

Rachel Wall
PRESS SECRETARY
California **HIGH-SPEED RAIL** Authority
rwall@hsr.ca.gov | (916) 384-9026, direct

Will the current/to be revised DEIR/S comment period still end on October-13th?

Yes. "The formal comment period for the Fresno to Bakersfield Draft EIR/EIS section will still end on Oct. 13, 2011. The revised document, to be issued in the spring of 2012, will have a separate, additional 45-day formal comment period," as stated in http://www.cahighspeedrail.ca.gov/10052011_fb.aspx.

Will comments received until October-13th be responded to by CHSRA officially?

Yes. However, these will not be officially responded to until the Final EIR/EIS is released sometime next year after the circulation of the revised document.

Will comments received between October-13th and the spring of 2012 not be officially responded too?

Only comments received during the formal comment periods will be formally responded to in the Final EIR/EIS. Comments received between Oct 13 and the release of the revised document will

Attachment to Submission BO069 (Gary A. Patton, Citizens for California High-Speed Rail Accountability (CCHSRA)(Atty. for), Wittwer & Parkin LLP, October 13, 2011) - 1344 Patton letter 101311_Attachments.pdf - Continued

not be officially responded to in the Final EIR/EIS unless they are re-submitted during the formal 45-day comment period later in the spring. Input received from the public and agencies will be helpful in revising the document.

Will the current DEIR/S Hanford East By-Pass data be part of the DEIR/S to be released in the spring?

Yes. The Authority and FRA are investigating potential improvements to the east of Hanford bypass.

Will the current DEIR/S Hanford East By-Pass be considered as its own report and be referenced to that way in the future?

No.

Will the current DEIR/S Hanford East By-Pass be simply eliminated and replaced by the revised DEIR/S in the spring?

No. The east of Hanford Bypass will be evaluated and included in the Revised Draft EIR/Supplemental Draft EIS.

Will we only have 45-days in the spring to review the current plan that will be combined with the new Hanford West By-Pass data?

Yes. There will be a 45-day comment period to comment on the revised document, so there will only be 45-days to review the revisions to the current Draft EIR/EIS. However comments may be made on any part of the Revised Draft EIR/ Supplemental Draft EIS including information unchanged from the Draft EIR/EIS. Therefore, since the revised document won't be released until the spring, there is more than six additional months to review the current Draft EIR/EIS for Fresno to Bakersfield.

If we do not submit all of our comments before October-13th, on the existing DEIR/S Hanford East By-Pass, will all of our comments on the Fresno to Bakersfield section (Hanford East & West By-Passes) still be considered for official review and mitigation during the spring 2012 revised DEIR/S comment period?

Substantive comments will be considered and responded to as long as they are submitted during one of the two comment periods, the current period ending on October 13 or the comment period for the revised document.

We know that some of the questions may seem redundant but the press release about the EIR/S process is reflecting a process that does not seem to have been used commonly. Our confusion stems from the status of the current DEIR/S. Is the report/statement and processes/timelines still in play or has it been scrapped to be combined in a report in the spring that also reflects the Hanford West By-Pass data. If the existing DEIR/S is scrapped, why is there still an October-13th deadline for comments?

The current DEIR/EIS remains an important part of the environmental review process and is not "being scrapped." The Authority and FRA encourage the public to submit comments by October 13 for consideration as the Revised Draft EIR/Supplemental Draft EIS is prepared. The Revised Draft EIR/Supplemental Draft EIS to be released in the spring will be expanded to include reintroducing the former statewide program EIR preferred alignment the West of Hanford Bypass, with an associated station option.

From: frank.oliveira [mailto:frank.oliveira@me.com]
Sent: Thursday, October 06, 2011 11:39 AM
To: Rachel Wall; Roelof Van Ark
Cc: Aaron Fukuda CCHSRA

Subject: CHSRA October 5th Hanford West By-Pass Press Release

Dear Mr. van Ark and/or Ms. Wells,
The press release pertaining to the Draft Environmental Impact Report/Statement (DEIR/S) process pertaining to the Fresno to Bakersfield section of the High-Speed Train project, that was released yesterday/October 5, 2011 by the California High-Speed Rail Authority (CHSRA) is confusing to us and not clear enough for us the public and stakeholders to actually participate.

The press release also seems to conflict with media reporting about what the CHSRA is doing.

Please confirm for us the following points from the press release.

Will the current/to be revised DEIR/S comment period still end on October-13th ?
Yes/No?

Will comments received until October-13th be responded to by CHSRA officially?
Yes/No?

Will comments received between October-13th and the spring of 2012 not be officially responded too?
Yes/No?

Will the current DEIR/S Hanford East By-Pass data be part of the DEIR/S to be released in the spring?
Yes/No?

Will the current DEIR/S Hanford East By-Pass be considered as its own report and be referenced to that way in the future?
Yes/No?

Will the current DEIR/S Hanford East By-Pass be simply eliminated and replaced by the revised DEIR/S in the spring?

Attachment to Submission BO069 (Gary A. Patton, Citizens for California High-Speed Rail Accountability (CCHSRA)(Atty. for), Wittwer & Parkin LLP, October 13, 2011) - 1344 Patton letter 101311_Attachments.pdf - Continued

Yes/No?

Will we only have 45-days in the spring to review the current plan that will be combined with the new Hanford West By-Pass data?
Yes/No?

If we do not submit all of our comments before October-13th, on the existing DEIR/S Hanford East By-Pass, will all of our comments on the Fresno to Bakersfield section (Hanford East & West By-Passes) still be considered for official review and mitigation during the spring 2012 revised DEIR/S comment period?
Yes/No?

We know that some of the questions may seem redundant but the press release about the EIR/S process is reflecting a process that does not seem to have been used commonly. Our confusion stems from the status of the current DEIR/S. Is the report/statement and processes/timelines still in play or has it been scrapped to be combined in a report in the spring that also reflects the Hanford West By-Pass data. If the existing DEIR/S is scrapped, why is there still an October-13th deadline for comments?

Please respond quickly because we are trying to comply with the October-13th deadline.

Thank you,

Frank Oliveira, Co-Chair
Citizens for California High-Speed Rail Accountability

Exhibit D

Attachment to Submission BO069 (Gary A. Patton, Citizens for California High-Speed Rail Accountability (CCHSRA)(Atty. for), Wittwer & Parkin LLP, October 13, 2011) - 1344 Patton letter 101311_Attachments.pdf - Continued

Memo to the Ridership Peer Review Panel **September 2011**

Prepared by Elizabeth Alexis, CARRD

We have a number of concerns about the existing ridership model. The peer review panel is addressing many of them like the discontinuities with urban, short and long trips. There are other items that we believe warrant further discussion.

The overall specific model behaviors that we are concerned about are:

1) The high rate of diversion from trips currently taken by car. The diversion from automobiles is almost as high as that from airplanes for SF – LA trips.
2) The high sensitivity to frequency at a normal level of headways.
3) The insensitivity of the model to access and egress issues.
4) The lack of sensitivity to significant socio-economic differences that exist between regions in California.
5) The treatment of longer distance commuters as high-end business travelers.
6) The lack of induced travel.
7) The presumption of high rates of population growth.

While some of these stem from the challenges of using a stated preference data set that oversampled those most likely to take a train, others come from the calibration phase and some are simply related to model inputs.

We believe that at a minimum the model should be re-estimated. Our preference given the importance of the model and the challenges in forecasting a new service in such a large and diverse state would be for the Authority to solicit proposals as to the best approach to the model and have the Peer Review panel help assess the relative merits.

We understand the time pressures involved with this project but we feel that the issues that have been identified with the model have a significant potential impact on forecasts for the Initial Operating Segment. We would also note that while the Authority has taken the stance that a higher forecast is more conservative for the purposes of environmental review, this is currently unsubstantiated.

Below we discuss certain specific issues in more detail.

Market definition

The CS model had an unusually broad definition of the market for high speed rail. It included all trips within the State of California[1]. This includes trips that are not served by HSR. For example, a trip from Eureka to Sacramento would be counted as part of the market.

An analysis comparing an adjusted number of trips[2] used in a previous ridership forecast by Charles River Associates which used a more traditional definition of market (from one county or region served by high speed rail to another also served by high speed rail) suggests that **50% or more** of the trips in the CS model would not be served by HSR.

This means that the baseline number of trips used to compute data like mode shares is inflated relative to other similar calculations.

It is very difficult to interpret the data in Figure 3 regarding the mode shares by trip distance from the 2011 CS memo given that HSR may not be a realistic option for the majority of trips.

For example, Table 4 gives the mode shares for business trips from "SCAG to MTC Interchange," better known as Los Angeles to the Bay Area. This trip is in the 375 mile range. While the mode shares vary somewhat by income, the auto share ranges from 10% to less than 5%. Figure 3, on the other hand, shows an auto share of about 40% for such trips.

The data in Tables 8, 9a and 9b from the same memo that gives mode shares by distance from station is somewhat better but still problematic. It limits the analysis to trips that start near a station but would presumably still include trips that do not end near another station.

For these types of analyses, it might be useful to limit the trips analyzed to those that had a viable HSR path. For short trips, CS limited HSR as an option to those with both access and egress shorter than 25 miles. For longer trips, this was limited to those with access less than 100 miles and the access and egress times each less than the train travel time.

This still includes many trips that seem unlikely to attract HSR passengers, but would be more helpful in comparing to the results to other systems.

[1] Except those to Lake Tahoe.
[2] The CRA analysis did not include commute trips and had data for 2000, 2015 and 2020.

Attachment to Submission BO069 (Gary A. Patton, Citizens for California High-Speed Rail Accountability (CCHSRA)(Atty. for), Wittwer & Parkin LLP, October 13, 2011) - 1344 Patton letter 101311_Attachments.pdf - Continued

Sensitivity to price changes

It is not a surprise that the model shows overall sensitivity to price changes. The calibration process that was undertaken endeavored not only to get reasonable replication of travel mode behavior but also achieve demand sensitivity.

Tables 5 and 6 in CS memo

The statewide averages for business and commute trips seem implausible given that only two small regions have trips that are lower than the average.

Differences between regions in California

The change in the frequency coefficient was motivated by a desire to dampen demand for air travel from certain airports, presumably those in the Central Valley as there is currently is a low level of service for intra-California flights from Central Valley cities.

The model used a more brute force method to further lower demand for air service.

The final model used large constants to represent the attributes of specific airport markets. For most of the Bay Area to Los Angeles area markets,these were large positive numbers,typically equivalent to $294 business / $143 non-business. They helped offset a large negative mode specific coefficient for air service (-$604 business/-$144 non-business).

There were no such constants for travel from any of the Central Valley airports, which clearly helped limit demand for air travel.

There are several problems with this approach. First, presumably the same types of factors that limit demand for air travel would apply in some manner to high speed rail, which is a close enough substitute for air that a nested model structure is used. There are however no similar dampening mechanisms for high speed rail demand from the Central Valley.

Second, a better approach would be to directly incorporate socio-economic data that differentiates Central Valley cities from others in California. Travel demand in general and high speed rail travel demand in particular are closely linked to income levels, educational attainment and certain types of employment. While the peer review group has focused on the importance of income, we would suggest using additional measures as the differences between regions are stark. Many of these metrics are analyzed in detail in this sobering report:
http://www.measureofamerica.org/california/

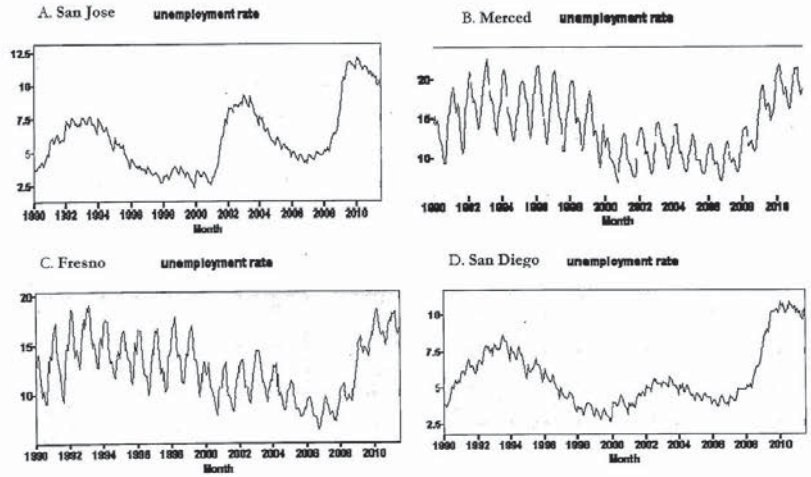
We have included a number of data points below.

1. Income and educational attainment levels[3]. Renfe (the Spanish HSR operator) indicated in a June 2011 presentation to CHSRA that 68% of their customers are college educated. The SP survey collected educational data.
2. Local economy data. We have both unemployment statistics and a breakdown of employment by the types of industries that have an affinity for high speed rail. These illustrate the large differences in California's regional economies. We do not have any data on hotel rooms but that would also be useful as a measure of tourism.

	Educational attainment	Household Income	Per capitaincome
San Francisco	51%	$86,546	$44,573
Palo Alto	79%	$119,483	$68,944
San Jose	36%	$78,660	$33,165
Gilroy	23%	$67,317	$28,192
Merced County	13%	$43,848	$17,994
Fresno County	19%	$46,230	$20,375
Kings County	12%	$45,595	$17,416
Bakersfield	20%	$51,886	$22,601
Palmdale	15%	$54,840	$19,231
Burbank	34%	$62,255	$32,885
Los Angeles	29%	$48,570	$27,070
Anaheim	22%	$57,870	$22,522
Irvine	64%	$92,195	$42,255

[3] Educational attainment is the percentage of adults over 25 with a college degree or higher.

Attachment to Submission BO069 (Gary A. Patton, Citizens for California High-Speed Rail Accountability (CCHSRA)(Atty. for), Wittwer & Parkin LLP, October 13, 2011) - 1344 Patton letter 101311_Attachments.pdf - Continued



Source: http://data.bls.gov/cgi-bin/surveymost?la+06

Employment by sector

	Information	Financial Activities	Professional and Business Services	Total	Civilian Labor Force	% of labor force
San Francisco - Redwood City	38.5	75.8	201.5	315.8	946.4	33%
San Jose - Sunnyvale	48.1	30.8	164.9	243.8	892.7	27%
Merced	1.3	1.6	3.7	6.6	106.6	6%
Fresno	3.7	13.2	25.8	42.7	434.9	10%
Bakersfield	2.8	7.9	23.5	34.2	364.2	9%
LA-Long Beach - Santa Ana	230.3	309.7	777.8	1317.8	6420.8	21%

Source: May 2011 BLS http://www.bls.gov/eag/eag.ca.htm

5

Access and egress

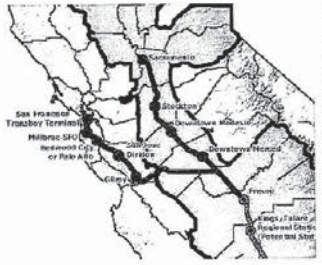
We have significant concerns that the model underestimates the important of train access. The previous model by Charles River Associates (available at http://cahighspeedrail.ca.gov/WorkArea/DownloadAsset.aspx?id=6588) only considered trips that were made by people who lived in the vicinity of a station and who were traveling to some place near another station.

The CS model includes all trips taken in the state of California (with the exception of those to Lake Tahoe) although the original SP sample specifically only included people who took a trip from one region served by high speed rail to another region served by high speed. The vast majority of the people participating in the survey lived quite close to a station. For example, residents of Monterey were excluded from the survey. Residents of half of California's counties were excluded from the survey.

It is a well-known attribute of high speed rail that ridership demand is closely tied to the accessibility of stations. It is even more sensitive than air service. "Beet root " stations often have disappointing ridership. Recent work by Mark Hansen and Reinhard Clever highlights the paramount importance of station location.[4]

In many ways, the model shows little of that sensitivity.

It can be seen in the extreme "stub" station effect wrt Merced and Anaheim.



In Phase 1, Merced will be the northern most station on the branch to Sacramento.The ridership forecast for Merced is **7,370** passengers per day. In phase 2, stations are scheduled to open in Modesto (40 miles away) and Stockton (70 miles away) and service will be extended to Sacramento and San Diego. Ridership for Merced is scheduled to drop to **1,558** passengers per day. The explanation given is that the passengers who will then use the Modesto (3,671 passengers) and Stockton (5,064 passengers) stations would have driven up to 100 miles on congested Highway 99 to Merced in Phase 1 to catch the train.

[4] "Interaction of Air and High-Speed Rail in Japan" Reinhard Clever and Mark M. Hansen *Transportation Research Record*, **2043**, 1-12 (2008)More at http://thinkmetric.com/diss/

6

Attachment to Submission BO069 (Gary A. Patton, Citizens for California High-Speed Rail Accountability (CCHSRA)(Atty. for), Wittwer & Parkin LLP, October 13, 2011) - 1344 Patton letter 101311_Attachments.pdf - Continued

The following assumptions were made in determining the "best path" high speed rail skims:

- All available local transit options in the system as well as auto and walk canbe used to access and egress high-speed rail stations;
- The maximum distance for auto access to high-speed is assumed to be 100miles (the same distance as air);
- High-speed rail will not be used if the auto access or auto egress time is greater than in-vehicle time;
- High-speed rail will not be used if the "best path" origin station anddestination station are the same;
- High-speed rail will not be used if the distance between the origin TAZ and destination TAZ is less than 100 miles and the access or egress distance is greater than 25 miles; and
- High-speed rail will not be used if the drive access plus drive egress time is greater than the time it would take to drive from the origin TAZ to the destination TAZ.

A similar phenomenon occurs with Anaheim.

The data that CS presented in the 2011 memo regarding mode share by distance from station clearly demonstrates the lack of sensitivity.

The model accounted for accessibility in two ways. First there was a link to calculated log sums from the access and egress (long trips only) mode choice models. These seem to have a limited role in the main mode choice.

Second, the high speed rail networks had explicit limits placed on them[5] [see side panel for excerpt]. These appear to be binding constraints in many cases .

For short trips, both auto access and egress were limited to 25 miles. In addition, the access and egress time each had to be less than the train trip time. This produces the more reasonable looking access data in Figure 7a and table 8. However, for trips that are less than 100 miles door-to-door, one would expect even more clustering of demand around stations.

For long trips, the constraints are less stringent yet still appear to have more influence on mode choice than the access and egress models.

CS is quite open about the limitations of the access/ egress components of the model. The problem is that the engineering consultants are using results from the model to help determine station location and even the number of stations. In addition, the center of information and financial firms is not always in the downtown, making the station decision more challenging.

The lack of sensitivity will be an issue with ridership forecasts for the Initial Operating Segment, where both ends will necessarily be "stub stations.'

Frequency/ headway coefficient

" Frequency does not have a significant effect either for air or HSR.' [6]

[5] Bay Area/California High-Speed Rail Ridership and Revenue Forecasting Study, Statewide Model Networks August 2007 page 5-14

As the Panel has noted, the current headway coefficient is inappropriate. But as the panel has also observed, the current model does not show extreme sensitivity to headways as measured by elasticities. This is not surprising, given the incredibly low absolute level of headways in the current operating schedule.

A 25% change in headways for long distance intercity travel with headways of 4 to 15 minutes means only 1 —4 minutes change. This cannot be compared to the change in headways where hourly service is more the norm and a 25% change in headways would mean a 15 minute change. While at some ranges of headway the demand response may be logarithmic wrt changes in frequency, it is unlikely to be so at the extreme low levels of headways in the operating schedule.

The frequency elasticity would be more relevant if the model was re-run with the headways that were in the original SP survey of 30 minutes to 2 hours.

Frequency is a complicated variable. The sensitivity depends on the length of trip. For long trips with long headways, the demand response may be more logarithmic than linear. For short trips with moderate headways, the demand response may be more exponential than linear.

In the case of the California High Speed Rail model, the topic is especially fraught.

First, the use of the high frequency coefficient is being used to dampen demand for air service from the Central Valley and masks the real issues as to why there is low air (and likely HSR train) demand between certain markets.The low frequency of service between certain cities is not exogenous;it is in part a function of low demand that correlates with many excluded variables that would help explain differences in demand due to the differences in regional economies and other socio-economic factors.

Table 1 on page 4 from the CS 2011 memo gives validated air passenger rates.The total number of daily intra-California passengers between the Central Valley and the Bay Area/ Los Angeles is only 140 people. While some of the trips in this market are too short for air service, many are quite long. For instance, Bakersfield to San Francisco is 450 km and Anaheim to Fresno is 390 km. In other markets with these same distances, there is a much larger air market.

Second, the high number of trains in the operating schedule is an artifact of the high frequency coefficient. Over the last five years, service levels have been dramatically increased. This was done because at higher headways (headways more similar to those in Europe) the model showed very high sensitivity to headways. Parsons Brinckerhoff then methodically increased the number of trains until there were very limited additional gains to be wrung.

Next, we have concerns that this model may not be robust to the more normal operating schedules that for-profit operators would likely propose.

[6] CS Memo, Bay Area/California High Speed Rail Ridership and Revenue Forecasting Study Meeting Minutesfrom February 7, 2006

Attachment to Submission BO069 (Gary A. Patton, Citizens for California High-Speed Rail Accountability (CCHSRA)(Atty. for), Wittwer & Parkin LLP, October 13, 2011) - 1344 Patton letter 101311_Attachments.pdf - Continued

Finally, the high frequency coefficient completely skewed the ridership forecasts for the Altamont vs. Pacheco routing decision. The Altamont route had headways that were 150%- 300% higher than the Pacheco route. While we understand that the Panel has been told explicitly not to deal with this issue, our estimates (based on population and air demand) are that a route like Altamont that more directly serves the East Bay could have substantially higher ridership and we would recommend that the route be re-analyzed when a new model is developed.

Cost of driving

"Usually, auto travelers will consider their cost of travel to be only their out-of-pocket gas costs. Thus, in most intercity travel models, auto costs are generally in the range of $0.10 to $0.15 per mile. While higher per mile costs are more consistent with the true costs of driving (including operating, maintenance, and ownership costs), they are generally not considered by travelers for specific travel decisions.'[7]

The model currently uses $0.24 per mile in 2005 dollars to calculate the cost of driving. In 2011 dollars, this cost is $0.27 per mile. This cost includes both fuel costs and other operating costs, assumed to be 60% of the fuel costs. The cost of gas is not explicitly included but can be calculated given an assumption of fuel mileage and a cost per mile of driving.

There are a couple of issues with this formulation.

First, it is not obvious that non-fuel operating costs should be included in a model of intercity travel. The ridership model is a behavioral model so it is important to have the perceived cost of travel, not the actual cost of driving. As CS points out in their review of a ridership model for another California high speed rail project, people do not typically consider costs like depreciation and repairs when taking occasional trips.

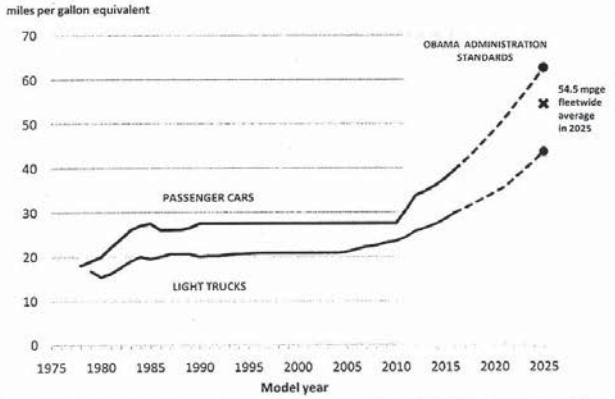
Second, if operating costs are included, there is no reason that they should be a function of gas prices. Our understanding is that this was a method used at one point by MTC but is no longer used by them. While that approximation may have been appropriate at one cost of fuel, it is subject to scale issues. While real costs of gas have increased substantially, there is no reason why maintenance costs should increase in sync with gas. What may have been appropriate when gas cost $1.10 per gallon may not be appropriate with gas closer to $4.00 per gallon. It is also confusing for sensitivity tests of gas price changes. The maintenance costs would also be increased, which may or may not be intended.

Finally, regardless of whether or not non-fuel costs are considered, the original SP survey was very specific that the costs were fuel only and the model was estimated accordingly. While the model was later calibrated using the more inclusive costs, this does not change the fact that all of the cost coefficients were estimated using just fuel costs. If people do mentally add in additional driving costs when making decisions, this would have been included in the regression coefficients.

[7] Cambridge Systematics Desert Xpress Ridership Forecast Review February 29, 2008

If it is determined that non-fuel costs should be included, then the model should be re-estimated adding in these costs to the cost of driving. Otherwise, the model should only use out of pocket costs like fuel.[8]

We would also point out that some significant increases in fuel efficiency have recently been mandated. Even if gas prices rise significantly, fuel efficiency gains may actually lower the cost of driving in the future, AKA the "Prius effect.' This type of scenario should be considered along with higher driving cost runs.



			MPG		
Cost of gas / gallon	20	25	30	40	50
$3.00	$0.15	$0.12	$0.10	$0.08	$0.06
$3.50	$0.18	$0.14	$0.12	$0.09	$0.07
$4.00	$0.20	$0.16	$0.13	$0.10	$0.08
$4.50	$0.23	$0.18	$0.15	$0.11	$0.09
$5.00	$0.25	$0.20	$0.17	$0.13	$0.10
$6.00	$0.30	$0.24	$0.20	$0.15	$0.12
$7.00	$0.35	$0.28	$0.23	$0.18	$0.14
$8.00	$0.40	$0.32	$0.27	$0.20	$0.16
$9.00	$0.45	$0.36	$0.30	$0.23	$0.18

[8] The case of business travelers is somewhat tricky. While federal reimbursement rates are very high, it is not clear that employees consider this as their cost.

Attachment to Submission BO069 (Gary A. Patton, Citizens for California High-Speed Rail Accountability (CCHSRA)(Atty. for), Wittwer & Parkin LLP, October 13, 2011) - 1344 Patton letter 101311_Attachments.pdf - Continued

Group travel

The CS model does not directly adjust the price of driving based on the number of passengers in the car. The standard treatment in other models is to calculate the cost by dividing driving costs by the number of passengers. This model does not do so.

For short trips, there does not appear to be any adjustment whatsoever.

For long trips, the CS model uses a group constant to represent both cost savings and a "road trip" effect in lieu of dividing the cost by the number of passengers. The cost savings of traveling in a group has not been updated even as the assumed cost of driving has more than doubled.

Given that most intercity car trips are with more than one traveler, this is a serious issue. In the SP survey, only 17% of all car trips were taken by single drivers.[99] Unlike local trips, the solo driver automobile is the exception rather than the rule and this effect is stronger the longer the trip.

Thus, the current model generally overestimates the cost of driving when there is more than one person in the car. This is a significant problem as a large majority of non-business intercity automobile trips are taken in groups.

In the original estimation, the consultant found that for long trips there was a group effect above and beyond the cost savings. There are several different plausible explanations for this finding. For example, multiple drivers can share driving and it is easier to deal with a whole family's luggage with one's own car.

For long distance non-business trips, the value of the group constant estimated using the SP survey data was $40 (2005 dollars). In the estimation, the average price of driving was about 11 cents per mile. Depending on the number of people in the car and how the group travel constant was attributed between cost savings and the "road trip' effect, this value gives very reasonable breakeven numbers.

Subsequent to the initial estimation and discussed in detail in the previous section, the price of driving has been significantly increased from the 11 cents per mile figure. It was 20 cents per mile in the initial calibration and is now 24 cents per mile. All these figures are in 2005 dollars.

However, the group constant has not been changed. It no longer gives a reasonable breakeven.

The below chart gives a typical per person cost of driving, assuming an operating cost of 24 cents per mile for a given number of passengers driving a given distance.

[99] CS Memo, Bay Area/California High Speed Rail Ridership and Revenue Forecasting Study Meeting Minutes from January 5, 2005

و	$12	$24	$36	$48	$60	$72
ی	$8	$16	$24	$32	$40	$48
ی	$6	$12	$18	$24	$30	$36

The next chart shows the effective cost per person using the group coefficient method in the CS model and assuming that 75% of the value is attributed to cost savings. All numbers in red are higher than the per person driving cost a standard model would give.

و	-$6	$18	$42	$66	$90	$114
ی	-$6	$18	$42	$66	$90	$114
ی	-$6	$18	$42	$66	$90	$114

For a 400 mile trip (Bay Area to Disneyland) with four people in the car, the difference is **substantial**. The model uses a cost of $66 per person vs. a traditional method cost of $24. For the household, this is **$264 vs $96** each way.

In addition, the issues with the price of driving identified previously compound the issues with the group travel coefficient.

Operating schedule

The current operating schedule has very frequent service and offers service to many different stations. Thus far, the operating schedule has been determined by the engineering program manager, Parsons Brinckerhoff, largely in response to a ridership model that showed excess sensitivity to normal frequencies. No actual train operator has been selected and there are several aspects about the schedule that a for-profit operator would likely change.

First, there would likely be many fewer trains. More service would be direct Bay Area to Los Angeles, in line with current demand for air service. And finally, there would be limited service available for regional commuter traffic.

Most non-subsidized long distance intercity rail systems in the US (Northeast Corridor) and in Europe try not to serve the regional commute market. They do this by setting fares very high, explicit prohibitions on short trips and scheduling.

This is done for very basic reasons. Because the demand for regional transit (Bakersfield to LA) outstrips the demand for long distance transit (San Francisco to Bakersfield), selling Bakersfield — LA tickets will often mean empty seats from San Francisco to Bakersfield. This dramatically lowers yield per mile operating results.

Attachment to Submission BO069 (Gary A. Patton, Citizens for California High-Speed Rail Accountability (CCHSRA)(Atty. for), Wittwer & Parkin LLP, October 13, 2011) - 1344 Patton letter 101311_Attachments.pdf - Continued

One solution to this issue is to run shorter distance trains to serve the regional markets. The commute market often has asymmetrical demand —with high demand in the morning in one direction and high demand in the evening in the other. This either requires additional trains or requires trains to run mostly empty in one direction. In addition, longer distance commuters tend to be sensitive to price so lower ticket prices need to be offered to attract significant numbers. In certain countries where there is a policy aim to spread out population away from the urban areas, there are very large discounts offered to long distance commuters.

Serving long distance commuters may serve policy goals but it is typically a money losing proposition. In general, this service is either offered through another subsidized service offering (AVE Avante[10]) or provided by a regional service (Metronorth, NJ Transit).

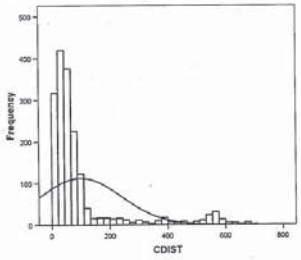
The CS model evenly spread out commuters throughout the morning and evening peak times, which is not likely to be realistic for most of the markets, particularly in phase 1 and the IOS.

In addition, there are no agreements that we are aware of with existing local train operators who may be competing for similar markets. For example, Caltrain's Baby Bullet service offers SJ to San Francisco service currently and this is one of the most profitable parts of their business. There are similar issues with Metrolink and the various Amtrak providers.

As the HSR operator has not been selected and no agreement has been reached with any local train operators as to who will serve the longer distance commuters, it makes sense to consider other operating schedules.

Commuters

The treatment of commuters in this model is problematic. Some of this stems from the initial data set. The vast majority of the "short' commuters surveyed were on a train to work. There were only 6 auto commuters. The original estimation revealed a value of time of only a couple of dollars per hour (this was later constrained to be higher), a clear sign that this was not a representative sample.



On the other hand, there were virtually no long distance commuters sampled. And of the 27 surveyed, a disproportionate number were flying from the Bay Area to LA. While there is a small group of such travelers and they would be very likely to consider HSR, a large majority of commuters over 100 miles are traveling just over that arbitrary limit.

[10] Cuidad Real in Spain has become known for its long distance commuters. The Avante commute service uses a lower end trainset and fares for commute times at more than a 75% discount to the service offered on the long distance trains.

While undocumented anywhere in the original reports, CS decided to address the small sample size by combining the long distance commuters with the business travelers, who were over-represented by those flying to and from the Bay Area.

This resulted in assigning a very high value of time to these commuters ($64), many of whom have a long commute because they decided that the lower cost of living outside of the Bay Area was worth the long time in the car.

While it is important to understand the potential of the high speed rail infrastructure to serve commuters, the actual level of service for commuters will likely depend critically on the available local subsidies. Realistically, a HSR operator will set fares high enough or alter schedules to limit demand during peak periods like Amtrak does with stations like New Haven and Princeton.

It may actually make more sense to separate out commute service from the long distance service, especially as it is unlikely that the long distance operator will be in a position to subsidize local service as significant project debt is envisioned and, by law, any extra money must help expand the system.

The regional transit authorities could then decide what type of regional transportation they want to support and then develop their own ridership numbers. The regional models have much more critical detail regarding access and egress and other connecting transit services.

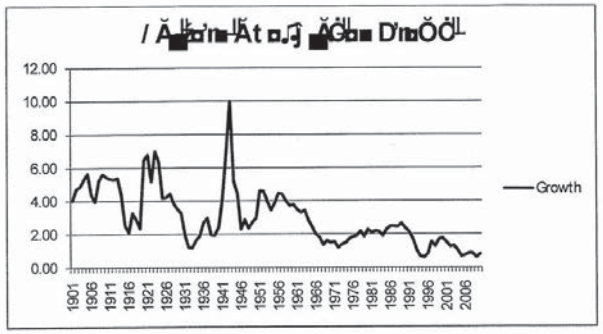
This of course is only one possible approach but the current treatment of long distance commuters as high-end business travelers needs to be fixed in some way. This may also help solve some of the calibration issues with demand for air service from Central Valley airports.

Population

California experienced tremendous growth over the last century and current forecasts include quite high levels of growth. The growth rate has significantly slowed and growth over the last decade was half of the growth originally forecast. Previously California enjoyed high rates of migration. Migration accounted for about half of California's growth. Earlier this decade, preceding the economic slowdown, this trend dramatically reversed and more people are moving out of California than moving in. This is perhaps not surprising as California's schools are poor performing and there are few areas with both a good job market and affordable housing.

While population growth could resume at its previous trajectory, it is also possible that growth could occur at half the forecast rate. We would recommend that the model be run with high and low population forecasts to understand the sensitivity to this critical assumption.

Attachment to Submission BO069 (Gary A. Patton, Citizens for California High-Speed Rail Accountability (CCHSRA)(Atty. for), Wittwer & Parkin LLP, October 13, 2011) - 1344 Patton letter 101311_Attachments.pdf - Continued



Source: http://www.dof.ca.gov/research/demographic/reports/estimates/e-7/view.php
Additional detailed data for last decade:

http://www.dof.ca.gov/research/demographic/reports/estimates/e-6/2000-10/documents/E-6_Report_July_2000-2010_updated_with_2010_census.xls

Exhibit E - CA HSRA Project Reports for the Year 2009 – January to December

These CA HSRA Project Reports are being submitted in a printed version with the copy of this letter mailed to the Authority. Here, we provide online links to these materials for the year 2009:

2009 Program Management Team Progress Reports

January PM Progress Report
February PM Progress Report
March PM Progress Report
April PM Progress Report
May PM Progress Report
June PM Progress Report
July PM Progress Report
August PM Progress Report
September PM Progress Report
October PM Progress Report
November PM Progress Report
December PM Progress Report

15

Exhibit E

Attachment to Submission BO069 (Gary A. Patton, Citizens for California High-Speed Rail Accountability (CCHSRA)(Atty. for), Wittwer & Parkin LLP, October 13, 2011) - 1344 Patton letter 101311_Attachments.pdf - Continued

Exhibit F - CA HSRA Project Reports for the Year 2010 – January to December

These CA HSRA Project Reports are being submitted in a printed version with the copy of this letter mailed to the Authority. Here, we provide online links to these materials for the year 2010:

2010 Program Management Team Progress Reports

January PM Progress Report
February PM Progress Report
March PM Progress Report
April PM Progress Report
May PM Progress Report
June PM Progress Report
July PM Progress Report
August PM Progress Report
September PM Progress Report; Amendment to PM Progress Report
October PM Progress Report; Deliverables Report; PMT Deliverables Summary
November PM Progress Report
December PM Progress Report

Exhibit F

Exhibit G - CA HSRA Project Reports for the Year 2011 – January to July

These CA HSRA Project Reports are being submitted in a printed version with the copy of this letter mailed to the Authority. Here, we provide online links to these materials for the year 2011:

2011 Program Management Team Progress Reports

January PM Progress Report
February PM Progress Report
March PM Progress Report
April PM Progress Report
May PM Progress Report
June PM Progress Report
July PM Progress Report

Exhibit G

Submission BO070 (Gary Patton, Citizens for California High-Speed Rail Accountability (CCHSRA)(Atty. for), Wittwer & Parkin, LLP, September 15, 2011)

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September 14, 2011

Chairperson and Members
California High-Speed Rail Authority
770 L Street, Suite 800
Sacramento, CA 95814

RE: Extension of Comment Period for Merced to Fresno
And Fresno to Bakersfield Draft EIR/EIS Documents

Dear Chairperson Umberg and Board Members:

This letter is submitted on behalf of Citizens For California High-Speed Rail Accountability (CCHSRA), a group of concerned residents, farmers, business people, and landowners who are concerned that the currently proposed high speed train project will have significant negative impacts throughout the state, and particularly on agricultural operations in the proposed Fresno to Bakersfield segment.

BO070-1

On behalf of CCHSRA, I am requesting that your Board take immediate action to provide an adequate comment period for the above-noted environmental review documents. Specifically, we urge the Authority to extend the time to comment on these two EIR/EIS documents until mid February, 2012, thus providing members of the public and those directly affected by the proposed project with at least 6 months to respond and provide comments on the two Draft EIR/EIS documents released by the Authority on August 9, 2011.

Attached is a copy of a letter making an identical request for the Fresno to Bakersfield EIR/EIS, submitted to you by the Griswold LaSalle law firm on behalf of the J.G. Boswell Company. We join in their request, and incorporate their arguments here, and we note that the need for and the justification for a six-month review period applies equally to *both* of the Draft EIR/EIS documents currently open for comment.

In fact, since this is a statewide project, which the Authority has chosen to design and review in segments, a competent and truly responsive set of comments on the impacts that will be created on any particular segment must take into account the impacts of the proposed project on other segments. This means that the CCHSRA must do more than review the 17,000 pages of the Draft EIR/EIS for the Fresno to Bakersfield segment that is of primary importance to CCHSRA and its members. CCHSRA's comments on the Bakersfield to Fresno Draft document must also take into account the contents of the Merced to Fresno Draft EIR/EIS, and the previously-certified statewide programmatic EIR/EIS. In short, the Griswold LaSalle letter is conservative in stating that members of the public are being asked to review 17,000 pages of

technical material, and to provide comments, all within a 60-day period. In fact, the volume of material that must be reviewed is probably close to three times that amount.

When the draft EIR/EIS documents were first released for public comment, CCHSRA promptly requested the Authority to provide a 90-day opportunity to comment on the Fresno to Bakersfield Draft EIR/EIS. The Authority did not honor that request. Without responding directly to CCHSRA, the Authority staff *did* revise the initial 45-day comment period announced upon release of the two Draft EIR/EIS documents, and added 15 days to the comment period for these documents, establishing the current 60-day comment opportunity. As the attached letter so convincingly demonstrates, a 60-day comment period is grossly inadequate. CEQA, and the CEQA Guidelines, and basic due process, require a much more extensive comment period.

CCHSRA and its members can attest that this due process problem is not merely "theoretical." Currently, CCHSRA and its members are working as diligently as they possibly can to review the 17,000-page Draft EIR/EIS for the Fresno to Bakersfield segment, and to relate this document to the Draft EIR/EIS for the Merced to Fresno segment and to the statewide Programmatic EIR. While the CCHSRA and its members are able to identify concerns and impacts that the proposed project will have on an area they know well, they are finding it incredibly difficult to prepare well-researched and substantiated comments on the Draft EIR/EIS documents, in view of the massive nature of the documents they are being asked to review and the very short comment period currently provided. This is particularly true since this is a time when many of the farmers most directly affected by the proposed plan in the Fresno to Bakersfield segment are preparing for an upcoming harvest. This makes it even more difficult to find any time to read, absorb, and then respond to the voluminous EIR/EIS documents.

A 60-day comment period does not provide the public with an "adequate" time to comment, and the failure of the Authority to provide an adequate time to comment undermines the integrity of the current environmental review procedure. This means that the residents, business persons, and landowners most directly affected by the proposed project are being denied an elemental due process opportunity to "be heard" before the government takes actions that could, in many cases, put working farms and dairies out of business along the proposed Fresno to Bakersfield segment.

Having an adequate opportunity to provide comments is of such great importance to CCHSRA and its members that CCHSRA was in the process of organizing its members to attend the scheduled September 22, 2011 Authority Board meeting, to make a personal appeal to the Authority Board to extend the current comment period, as we request in this letter. References to that scheduled September 22, 2011 Board meeting were posted on the Authority's website as late as Sunday, September 11th, but the September 22nd meeting was then apparently "cancelled," and all references to the meeting were removed from the Authority's website, by Tuesday, September 13th.

Because there is no regular Board meeting scheduled prior to the current comment deadline on October 13th, we request that Authority immediately schedule a special meeting of the Board directly to address this pressing request for a six-month review period.

Submission BO070 (Gary Patton, Citizens for California High-Speed Rail Accountability (CCHSRA)(Atty. for), Wittwer & Parkin, LLP, September 15, 2011) - Continued

As CEQA provides, at Public Resources Code Section 21005 (a):

> The Legislature finds and declares that it is the policy of the state that noncompliance with the information disclosure provisions of this division which precludes relevant information from being presented to the public agency, or noncompliance with substantive requirements of this division, may constitute a prejudicial abuse of discretion within the meaning of Sections 21168 and 21168.5, regardless of whether a different outcome would have resulted if the public agency had complied with those provisions.

The information in the comments that CCHSRA and its members want to supply through their comments is absolutely "relevant information." We urge the Authority to take seriously its responsibility to make sure that such relevant information about the impacts of the proposed project is presented to the Authority, as the public agency responsible for making routing and related decisions on the proposed high-speed train project in the Central Valley, prior to the Board's decision. The current 60-day review period is not fair, and is inconsistent with both CEQA and the due process requirements of the California Constitution. Unless it is extended, the Authority will not receive all the relevant information it needs to know about, before making a decision on the largest public works project ever proposed in the State of California.

In conclusion, we ask the Authority for a six-month period to comment on environmental review documents. Failure to provide an adequate comment period is a violation of both the law and due process.

Very truly yours,

Gary A. Patton, Of Counsel\
WITTWER & PARKIN, LLP
Attorneys for Citizens for California HSR Accountability

cc: Governor Jerry Brown
Members and Supporters, CCHSRA
Members, California State Legislature
Kings County Board of Supervisors
City Officials in Kings County
J.G. Boswell Company
Other Interested Persons

Response to Submission BO070 (Gary Patton, Citizens for California High-Speed Rail Accountability (CCHSRA)(Atty. for), Wittwer & Parkin, LLP, September 15, 2011)

BO070-1

Refer to Standard Response FB-Response-GENERAL-07.

Attachment to Submission BO070 (Gary Patton, Citizens for California High-Speed Rail Accountability (CCHSRA)(Atty. for), Wittwer & Parkin, LLP, September 15, 2011) - 887 Patton letter 091511_Attachment.pdf

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September 8, 2011

VIA UPS NEXT DAY AIR SAVER
TRACKING NO. 1Z F74 78R 13 9995 0584

Board of Directors
CALIFORNIA HIGH SPEED RAIL AUTHORITY
770 L Street, Suite 800
Sacramento, CA 95814-3359

Re: Extension of Draft EIR/EIS Comment Period - Fresno to Bakersfield HSR
SCH # 2009091126

Dear Chairman and Members of the Board:

This letter is submitted on behalf of J.G. Boswell Company. The purpose of this letter is to request an extension of the comment period on the above Draft EIR/EIS for at least 6 months, through mid-February 2012.

The existing comment period is grossly inadequate and denies due process to those seeking to comment on the EIR/EIS. The initial 45 day comment period, later extended only 15 additional days to October 13, 2011, is plainly insufficient to allow any meaningful comment on 17,000 pages of documents.[1] See Appendix A for list of documents and page lengths. The 17,000 page total does not include any documents for the Merced to Fresno segment (SCH # 2009091125), which would bring the total to over 30,000.

The EIR/EIS is not user friendly. For example, Chapter 10 of the EIR/EIS lists 831 sources that are referenced in the report. In instances noted so far, these sources are referenced without internal citations, requiring the reviewer/commenter to obtain the document, review it, and make a judgment as to which part was intended to support the citation in the EIR/EIS. This lack of

[1]It also appears the EIR/EIS and supporting documents are available in English only.

specific citations makes it difficult to determine whether a statement made in the EIR/EIS is supported by substantial evidence.

Due to the requirements of CEQA,[2] meaningful public comment is the key phase of the CEQA public review process. The CEQA process becomes a sham without it, and results in a denial of due process.

In 2004 the Authority released the Draft Program EIR/EIS for the Proposed California High-Speed Train System (SCH # 2001042045). The State Clearinghouse set a review period of February 13, 2004 to August 31, 2004, or 6 1/2 months, for this Program EIR/EIS. It neither makes sense, nor is there any good reason, why the review period for the Program EIR/EIS was more than 6 1/2 months while the review period for the much more detailed Project specific EIR/EIS is only 2 months.

In view of the above, we believe that at least a 180 day comment period is required, ending mid-February 2012 as measured from August 15, 2011. This matter requires Board, rather than administrative, attention, and, accordingly, we request this matter be placed on the agenda for a special meeting at the Board's earliest convenience. As the Board's next regularly scheduled meeting is not until September 22, 2011, the urgency of this issue demands it be dealt with before then.

We understand that the EIR/EIS was released on August 9, 2011. The orginial comment period was for 45 days, beginning August 15, 2011 and ending September 28, 2011. This time limit was apparently set by staff without Board involvement. The 45 day period is the minimum under CEQA Guidelines § 15105(a). This time period makes no allowance for the unparalleled scope of the project.

At the August 25, 2011 Board meeting, a petition signed by about 300 Kings County residents was submitted by Hanford-area farmer Frank Oliveira on behalf of the Citizens for California High Speed Rail Accountability (CCHSRA). These citizens asked for a 45 day extension, making for a total of a 90 day review and comment period. The request was not on the Board's meeting agenda, but staff did grant an additional 15 days to the original 45 day comment period for a total of 60 days. The comment period now ends October 13, 2011 which corresponds to the end date of the State Clearinghouse (SCH) review period.

[2]All statutory references to CEQA are to Public Resources Code §§ 21000 et. seq. CEQA's implementing regulations are known as the "CEQA Guidelines" and are set forth at 14 Cal. Code Regs. §§ 15000 et seq., and are referred to as "CEQA Guidelines § _____" or as "Guidelines § _____."

Attachment to Submission BO070 (Gary Patton, Citizens for California High-Speed Rail Accountability (CCHSRA)(Atty. for), Wittwer & Parkin, LLP, September 15, 2011) - 887 Patton letter 091511_Attachment.pdf - Continued

The High Speed Rail (HSR) project is the largest and most expensive infrastructure project in the history of the State of California and even its component parts -- the Fresno to Bakersfield segment, or the Merced to Fresno segment, -- could fairly be estimated to be the largest infrastructure projects in State history, and certainly in the history of the San Joaquin Valley.

As stated above, the EIR/EIS for the Fresno to Bakersfield segment, select supporting documents, and technical data available at the Fresno-Bakersfield EIR/EIS web page consist of 17,000 pages (See Appendix A). Not all the documents referenced in the EIR/EIS are available at that web page. If one includes the EIR/EIS and related documents for the Merced to Fresno segment, the total pages to be reviewed approaches 30,000 or more. The sheer volume of material necessitates a significant extension of the review and comment period. Two basic reasons support the extension; these reasons are explained below.

I. THE SIXTY DAY REVIEW PERIOD FAILS TO MEET CEQA REQUIREMENTS BECAUSE IT FAILS TO PROVIDE AN "ADEQUATE TIME" TO REVIEW THE MASS OF MATERIAL ONLY LATELY RELEASED FOR PUBLIC REVIEW AND COMMENT.

CEQA Guidelines § 15203 states:

> "The lead agency *shall* provide **adequate time** for other public agencies *and members of the public to review and comment* on the draft EIR or negative declaration that it has prepared." (Emphasis added.)

Adequate time is required not only because "Public participation is an essential part of the CEQA process" (CEQA Guidelines § 15201), but because the Legislature has declared that the purposes of the review period include:

(a) Sharing expertise;
(b) Disclosing agency analysis;
(c) Checking for accuracy;
(d) Detecting omissions;
(e) Discovering public concerns; and
(f) Soliciting counter proposals.

CEQA Guidelines § 15200.

The Legislature has declared:

> "The maintenance of a quality environment for the people of this state now and in the future is a matter of statewide concern." Pub. Res. Code § 21000(a).

And:

> "Every citizen has a responsibility to contribute to the preservation and enhancement of the environment." Pub. Res. Code § 21000(e).

There can be no question that CEQA and the CEQA Guidelines were developed to allow the public every possible opportunity to meaningfully participate in the EIR/EIS process.

Given the mere 60 day review period, none of the purposes of EIR/EIS review and comment can be served, for the following two major reasons:

1. **The time for review that the Authority has chosen does not allow the public "adequate time" for public review and comment, as required by CEQA Guidelines § 15203. To examine some 17,000 pages within 60 days requires a person to read 283 pages per day and no time to prepare responsive comments. The initial review period of 45 days was simply more egregious and required 378 pages per day to be read.**

In comparison, a 45 day EIR review and comment period was recently used for an ordinance by the City of Sunnyvale to prohibit single use plastic bags at grocery stores. (See City of Sunnyvale Single-Use Carryout Bag Ordinance Draft EIR, SCH #2011062032 August 2011). That EIR consisted of 210 pages which amounts to reviewing 4.6 pages per day. The High Speed Rail Authority (Authority) expects 61 times more effort **per day** just to read the mass of CEQA documentation for the Fresno to Bakersfield HSR project.[3] Such an expectation is unrealistic, unfair, and does not meet the requirement of CEQA to have adequate review period. At the "plastic bag ordinance" rate of 5 pages per day, the review period for the 16,953 pages of the Fresno-Bakersfield HSR EIR/EIS would be 3,391 days or about 9.3 years (16,953 pages x day/5 pages = 3,391 days x 1 year/365 days = 9.289 years).

These simple metrics, of course, in no way imply that the Fresno-Bakersfield HSR project is in any way comparable to Sunnyvale's plastic bag ordinance project. The former is an infinitely

[3]Also this does not include the EIR/EIS for the Merced-Fresno segment.

Attachment to Submission BO070 (Gary Patton, Citizens for California High-Speed Rail Accountability (CCHSRA)(Atty. for), Wittwer & Parkin, LLP, September 15, 2011) - 887 Patton letter 091511_Attachment.pdf - Continued

more complex project proposing vast, irreversible commitments of public and private resources on the largest scale in the history of the San Joaquin Valley.

Persons who wish to comment and share their expertise, provide analysis, check for accuracy, voice their concerns, and prepare counter proposals will never be able to do so because they will never be able to review all the documents and comment in a mere 60 days.

2. **While the regulations typically allow for a 45 to 60 day comment period, the regulations also allow that time to be exceeded, without the need to otherwise stop the project, in "unusual circumstances." CEQA Guidelines § 15105(a). The HSR certainly qualifies as an unusual circumstance. In no way can the HSR project be compared to other projects in the history of the State of California and the San Joaquin Valley. Therefore, the 60 day period must be extended.**

The Legislature has declared:

> "... it is the policy of the state that projects to be carried out by public agencies be subject to the same level of review and consideration [under CEQA] as that of private projects required to be approved by public agencies." Pub. Res. Code § 21001.1.

A private company would never be allowed to undertake a project of this magnitude and be subject to a mere 60 day review period. Given the scope of the project, it is difficult to imagine that there could be a more "unusual circumstance" that would allow the typical comment period to be extended.

The "unusual circumstances" provision of CEQA Guidelines § 15105(a) gives the lead agency the necessary flexibility to set the comment period consistent with the meaningful public participation and due process goals of CEQA. This flexibility eliminates the absurdity of a "one size fits all" rule which would provide equal 45 day review and comment periods to the Sunnyvale plastic bag ordinance and the Fresno to Bakersfield HSR project. Nor must we omit that the review and comment period for the Merced to Fresno Draft EIR/EIS runs concurrently, compounding the insufficiency of the alloted time.

The Legislature has also declared that it is the policy of the state that:

> "Documents prepared pursuant to [EIR requirements] be organized and in a manner that will be meaningful and useful to decisionmakers and to the public." CEQA Guidelines § 21003.

Given the sheer volume of the documentation, in order to make the documents "meaningful and useful" there must be adequate time to review them. With only 60 days, neither the decisionmakers nor the public can make the determination of whether the EIR/EIS documents satisfy that criteria because there is insufficient time to so do.

The Authority claims transparency in its proceedings but this claim rings hollow at this crucial juncture. The Authority's "Environmental Review Fact Sheet" states:

> "The California High-Speed Rail Authority (CHSRA) and the Federal Railroad Administration (FRA) are the state and federal agencies responsible for the environmental review of the state's high-speed train system, **and together they have implemented a more transparent, collaborative and inclusive approach to the EIR/EIS process than is typical or required**, with state and local planning agencies, local communities and the general public integrated into the entire process." (Emphasis added.)

This statement is not true as to meaningful public participation and satisfaction of due process. The key point in the CEQA process is at hand and the 60 days allotted to review and comment on 17,000 pages of material for the Fresno to Bakersfield segment stacks the deck against the commenting parties. The point is exacerbated when the additional thousands of pages for the Merced to Fresno EIR/EIS are added.

II. THE SIXTY DAY REVIEW PERIOD DENIES DUE PROCESS TO INTERESTED PARTIES DUE TO THE LENGTH AND COMPLEXITY OF THE ENVIRONMENTAL DOCUMENTS FOR THE FRESNO-BAKERSFIELD HSR

Any review period less than six months raises serious constitutional issues. The public is entitled by statute and regulation to have a meaningful review. By only allowing 60 days to review 17,000 pages of documents associated with the Fresno to Bakersfield EIR/EIS, the Authority has essentially made the public review meaningless. The Legislature has allowed the public to participate in the CEQA process as a participant and not just a spectator. By bombarding the public with documents without any hope for a complete review, the Authority has put the public on the sidelines, and due process will be violated should there be no extension.

Rights granted by CEQA must allow the public to have a meaningful review because the Legislature has recognized that "Every citizen has a responsibility to contribute to the preservation and enhancement of the environment." Pub. Res. Code § 21000(e).

CEQA was enacted in 1970 and provides a detailed process for public review. It is a "powerful tool for citizen action and government accountability." Note, The Timber Harvest Plan

Attachment to Submission BO070 (Gary Patton, Citizens for California High-Speed Rail Accountability (CCHSRA)(Atty. for), Wittwer & Parkin, LLP, September 15, 2011) - 887 Patton letter 091511_Attachment.pdf - Continued

Exemption from the California Environmental Quality Act: Due Process and Statutory Intent, 41 Hastings L.J. 727, 730 (1990). In fact, the purpose of the EIR/EIS is:

> "... to provide public agencies and the public in general with detailed information about the effect which a proposed project is likely to have on the environment; to list ways in which the significant effects of such a project might be minimized; and to indicate alternatives to such a project." Pub. Res. Code § 21061.

Courts have called the EIR/EIS an "environmental 'alarm bell' whose purpose is to alert the public and its responsible officials to environmental changes *before* they have reached ecological points of no return." Santiago County Water District v. County of Orange, 118 Cal.App.3d 818, 822 (1981). To accomplish this purpose, CEQA statutes and regulations require that the public be made part of the process, including:

- Comments be accepted by the public at anytime during the EIR/EIS process (Pub. Res. Code § 21003.1(a));
- The lead agency **must** respond, in writing, to all comments received during the comment period (Pub. Res. Code § 21004);
- Relevant information should be made available as soon as possible to the public (Pub. Res. Code § 21003.1(b));
- Notice must be given to all those who have requested such when the draft EIR/EIS is complete (Pub. Res. Code § 21092);
- Draft EIR/EIS documents should be made available in local libraries (CEQA Guidelines § 15087(g));[4]
- The Public agency must publish notice in a paper of general circulation in the area of the proposed project (CEQA Guidelines § 15087(a));
- Public hearings on the documents are encouraged (CEQA Guidelines § 15087(i)); and

[4]Note that the Technical Appendices to the EIR/EIS, listed as nos. 4-43 on Appendix A, were not made available at local libraries. This is important because the appendices are referenced throughout the EIR/EIS.

- **An adequate public review period is required and can be extended in unusual circumstances** (CEQA Guidelines § 15105) (emphasis added).

CEQA regulations take public participation so seriously that the process provides grounds upon which judicial review of the project may be obtained. CEQA Guidelines § 15112.

Because public review and participation is expressly granted by statute and regulation, any review period less than six months raises serious constitutional issues under the circumstances. The public is entitled by statute and regulation to have a meaningful review. By only allowing 60 days to review some 17,000 pages of documents associated with the EIR/EIS, the Authority has essentially made the public review meaningless. The Legislature intends for the public to participate in the CEQA process in a meaningful way; in this case, requiring sufficient and adequate time for review. By releasing to the public a large quantity of documents without any hope for a complete much less a meaningful review, the Authority has made the public a spectator, and due process will be violated should there be no significant extension of time to review and comment on the documents.

1. State Constitutional Issues

The CEQA statutes and regulations, as applied, violate California Due Process requirements because the Authority has failed to provide adequate time for EIR/EIS review. In order to remedy the as applied violation, sufficient time to review the EIR/EIS must be granted.

Due process safeguards in this context are analyzed with the principle in mind that all should be free from arbitrary adjudicative procedures. People v. Ramirez, 25 Cal.3d 260, 268 (1979). A fundamental concept of due process is "the right to a reasoned explanation of government conduct that is contrary to the expectations the government has created by conferring a special status upon an individual." Id. at 276. Here, CEQA statutes and regulations confer a special status on the public by requiring meaningful review; yet the Authority has taken away that right by imposing an unreasonable review period, and providing no explanation therefor.

To determine the level of due process required, courts examine:

1. The private interest that will be affected by the official action;
2. The risk of an erroneous deprivation of such interest through the procedures used, and the probable value, if any, of additional or substitute procedural safeguards;
3. The dignitary interest in informing individuals of the nature, grounds and consequences of the action and in enabling them to present their side of the story before a responsible governmental official; and

Attachment to Submission BO070 (Gary Patton, Citizens for California High-Speed Rail Accountability (CCHSRA)(Atty. for), Wittwer & Parkin, LLP, September 15, 2011) - 887 Patton letter 091511_Attachment.pdf - Continued

4. The governmental interest, including the function involved and the fiscal and administrative burdens that the additional or substitute procedural requirement would entail. Id. at 269.

The private interest here is compelling; CEQA statutes and regulations mandate that the public be allowed meaningful and adequate review of the EIR/EIS. In this respect, the Legislature has already determined that the public has a significant interest in proper review.

The risk that the private interest will be erroneously deprived is high; in fact it is happening. Although the regulations allow the Authority to declare the most expansive and expensive infrastructure project in the history of California an "unusual circumstance" and provide additional time for public review and comment, the Authority has (so far) failed to so do and without any explanation. In addition, as the Authority is well aware, the review period ends the time that individuals may comment and preserve issues that must be on the record for judicial review. By completing the review period before it is possible for stakeholders to read the documents and provide comments, the Authority is also precluding meaningful review following the final EIR/EIS being issued. Rigid adherence to the 45 or 60 day periods mentioned in Guidelines § 15105(a) therefore guarantees denial of due process for projects of the scope of this EIR/EIS.

The dignity interest weighs heavily in favor of an extension of time. It is inconceivable that the public could be charged with reading and commenting on the EIR/EIS, only to find out that it is impossible to do so because there is insufficient time to read the documents in this case.

Finally, the governmental interest in providing additional time is identical to the private interests. The Legislature has already made this determination by stating that the public is entitled to meaningful and adequate review, and putting in place an entire scheme to ensure such review occurs. The government has a significant interest in ensuring that its own statutes and regulations are followed, especially when no fiscal or administrative burdens are involved beyond the passage of time.

As the Federal Railroad Administration is the lead Federal agency designated on the HSR project, the purpose and requirements of the National Environmental Policy Act (NEPA) are also at issue. The purpose of NEPA review corresponds to CEQA review. Congress has declared, "... it is the continuing policy of the federal Government, ... in cooperation with State and local governments, and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance ... to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans." (42 U.S.C. § 4331). Therefore the purposes of NEPA also support the extension requested herein.

2. Federal Constitutional Issues

Due process under the federal constitution requires that an entitlement exist under state law. There can be no question that the Legislature has entitled the public to a meaningful and adequate review of the EIR/EIS documents through the CEQA statutes and regulations. It is merely a question of what process is due.

Pursuant to Mathews v. Eldridge, 424 U.S. 319 (1976), to determine what process is due, the state should look at the private interests involved, the risk of an erroneous deprivation and value of additional safeguards, as well as the governmental interest.

Again, the public's interest is high; the public is entitled to a proper review under CEQA but such a review cannot be met in such a short and arbitrary time frame currently established by the Authority. Denial of that proper review, in turn, prejudices the rights of potential litigants who are subject to the exhaustion doctrine. Denial of adequate, proper, and meaningful review stacks the deck in favor of the project proponent, who here is also the reviewing agency. This conflict of interest between the duty of full, objective CEQA review and support of the HSR project is clearly brought out by the denial of a meaningful adequate public review and comment period.

The risk that rights may be erroneously deprived is high. By the Authority arbitrarily setting the review period in this circumstance such that it is impossible for the public to respond, a deprivation is not only possible, but is a certainty where no due process was given in setting the initial review period. As the Authority knows, EIR/EIS challenges must be made on comments lodged during the review period. What the Authority has done is present to the public a large volume of documents such that there is no possibility for all necessary comments to be included in the record, effectively precluding a proper legal challenge to the EIR/EIS documents following a finalization of those documents, and denying access to the courts.

Finally, the governmental interest, as under the state due process requirements, is in concurrence with the private interest. Again, the Legislature has already made this determination by stating that the public is entitled to meaningful and adequate review, and putting in place an entire scheme to ensure such review occurs. The government has a significant legitimacy interest in ensuring that its own statutes are followed, especially when no fiscal or administrative burdens are involved.

Here, there has been no due process as to the setting of this review period. The setting of this review period for the same length for a local ordinance reflecting plastic bag usage, without an explanation or an opportunity to be heard and challenge the determination, violates the Fourteenth Amendment of the United States Constitution, as well as the California Constitution. As has been said many times, the fundamental requisite of due process of law is the opportunity to be heard, and

Attachment to Submission BO070 (Gary Patton, Citizens for California High-Speed Rail Accountability (CCHSRA)(Atty. for), Wittwer & Parkin, LLP, September 15, 2011) - 887 Patton letter 091511_Attachment.pdf - Continued

that right has little reality or worth unless the public is informed and can choose for iteself whether to participate. Mullane v. Central Hanover Bank & Trust Co., 339 U.S. 306, 314 (1950). In this case, the public cannot know, and can never know under the limited review period what position and comments it should make relating to the EIR/EIS, had it been afforded an adquate review period.

"Due process is flexible and calls for such procedural protections as the particular situation demands." Mathews v. Eldridge, 424 U.S. 319, 334. In this situation, due process calls for a reasonable number of days to review the EIR/EIS and supporting documents. We ask for at least a 180 day review period, for all the reasons stated.

Very truly yours,

GRISWOLD, LaSALLE, COBB,
DOWD & GIN, L.L.P.

By: _____
ROBERT M. DOWD

APPENDIX A
LIST OF REPORTS
COMPRISING FRESNO TO BAKERSFIELD
DRAFT EIR/EIS
AND SUPPORTING DOCUMENTS

Below is a list of the documents posted at the HSRA web page for the Fresno to Bakersfield EIR/EIS (nos.1-3) and related documents (nos. 4-43), with their page counts. The purpose of the compilation is to show the inequity and lack of due process afforded by the 60 day public review and comment period. Note that item nos. 4 through 43 are posted at the HSRA web page for the Fresno to Bakersfield EIR/EIS and are referred to in the EIR/EIS. However, items nos. 4-43 are not included in the EIR/EIS and are not provided on the EIR/EIS cds given out by the HSRA office in Hanford. Also, items nos. 4-43 are not available with the hard copy EIR/EIS available for public review at the HSRA office in Hanford and at the Kings County Library in Hanford.

1.	EIR/EIS Volume 1	1,556
2.	EIR/EIS Volume II	804
3.	EIR/EIS Volume III	940
4.	Transportation Analysis Technical Report Draft 8/11	242
5.	Figures for Chapters 4 and 5 above	199
6.	Appendix A Traffic Counts Data	537
7.	Appendix B Existing Synchro Output	423
8.	Appendices C through E, Future Assumed Improvements et al.	833
9.	Appendices F through I, Future Plus Project Synchro Output et al.	929
10.	Air Quality Technical Report Draft 8/11	168
11.	Air Quality Technical Report Appendix A Construction Emissions	713
12.	Noise and Vibration Technical Report 7/11	424
13.	Hydrology and Water Quality Technical Report 8/11	158
14.	Geology, Soils, and Seismicity Technical Report 7/11	92
15.	Hazardous Wastes and Materials Technical Repot 8/11	188
16.	Appendix A Regulatory Database Search Report	4,287
17.	Appendix B PEC Site Summaries w/ Sanborn Map Review	10
18.	Appendix C Historic Topo Maps	168
19.	Appendix C Sanborn Fire Insurance Maps Part 1 of 4	61
20.	Appendix C Sanborn Fire Insurance Maps Part 2 of 4	61
21.	Appendix C Sanborn Fire Insurance Maps Part 3 of 4 (Pt. 4 beg. P. 62)	107
22.	Appendix D Site Reconnaissance, Field Notes, Photographs and Photo Logs Part I	482
23.	Appendix D Site Reconnaissance, Field Notes, Photographs and Photo Logs Part II	344
24.	Community Impact Assessment Technical Report 7/11	578

Attachment to Submission BO070 (Gary Patton, Citizens for California High-Speed Rail Accountability (CCHSRA)(Atty. for), Wittwer & Parkin, LLP, September 15, 2011) - 887 Patton letter 091511_Attachment.pdf - Continued

Submission BO071 (George Mihlsten, Coffee-Brimhall LLC (Atty. for), Latham & Watkins LLP, October 13, 2011)

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File No. 006526-0176

VIA FEDERAL EXPRESS

October 12, 2011

California High-Speed Rail Authority
Fresno to Bakersfield Draft EIR/EIS Comment
770 L Street, Suite 800
Sacramento, CA 95814

Re: Comments on California High-Speed Train Project Fresno to Bakersfield Section Draft Environmental Impact Report/Environmental Impact Statement (State Clearinghouse No. 2009091126)

Dear Sir or Madam:

We are writing on behalf of our client, Coffee-Brimhall LLC, to comment on the Draft Environmental Impact Report/Environmental Impact Statement for the Fresno to Bakersfield section of the California High-Speed Train Project prepared by the California High-Speed Rail Authority and Federal Railroad Administration.

BO071-1

We understand that the Authority has committed to issue a "Revised Draft EIR/EIS" in the Spring of 2012, which will redefine the Project's alignment for the Bakersfield portion of the statewide route.[1] We have a number of serious questions and concerns regarding the Draft EIR/EIS's adequacy under CEQA and NEPA. However, based on the press release issued by the Authority on October 5, 2011, it is clear that the Project's description is not settled. As you know, "an accurate, stable and finite project description is the *sine qua non* of an informative and legally sufficient EIR." (*County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 193.) Since the Authority has announced that it no longer even knows where the alignment will be proposed, it is hard for the public to comment on the potential environmental impacts of the project. The Authority has stated that it will analyze a changed route in the Revised Draft EIR/EIS, and because the Authority has stated that all comments received during the Revised Draft EIR/EIS comment period will be responded to in writing, we will review this revised document when it is released and reserve our right to comment on both the Draft EIR/EIS and Revised Draft EIR/EIS at that time.

BO071-2

Coffee-Brimhall, LLC owns approximately 255 acres located at the intersection of Coffee Road and Brimhall Road in the City of Bakersfield. This property is approved for the

[1] See attached October 5, 2011, California High-Speed Rail Authority Press Release.

LATHAM & WATKINS LLP

BO071-2

development of over 2 million square feet of commercial development and 425 residences, and known as Bakersfield Commons. The Draft EIR/EIS reveals for the first time that the Project proposes a temporary take of Coffee-Brimhall, LLC's property. The Draft EIR/EIS also indicates that both of the alternative alignments analyzed in the Draft EIR/EIS, the locations of which may be changed in the Revised Draft EIR/EIS, would bisect Coffee-Brimhall's property.

Despite the almost certain significant environmental impacts that the Project will have on Coffee-Brimhall's property, both from the undefined temporary take and its operation, the Draft EIR/EIS addresses the potential significant impacts to the property and approved development in only a couple of sentences. (Draft EIR/EIS at 3.19-36 to 3.19-37.) This discussion is wholly inadequate.

With respect to the "temporary taking," the Draft EIR/EIS does not state what the property would be taken for, how long the take would be, when the take would be expected to commence, and whether compensation would be provided. Despite a 17,000-page Draft EIR/EIS, this substantial blight and restriction of use on the property is entirely unexplained. The Revised Draft EIR/EIS must provide additional information and analysis of the environmental and social impacts of this "temporary taking."

Similarly unexplained are the construction-related and operational impacts on Coffee-Brimhall's property. The only operational impact explained, albeit in a single sentence, is an increase in visual impacts on users and residents of Bakersfield Commons. (Draft EIR/EIS at 3.19-36 to 3.19-37.) There is no discussion or analysis of air quality, noise, vibration, odors, transportation and circulation, biological resource, noise increases, traffic generation, electromagnetic fields, geology and soils, or hydrology and water resources impacts. The Revised Draft EIR/EIS must provide a more fulsome discussion of impacts to the property so that we can assess these potentially significant impacts.

BO071-3

The Draft EIR/EIS is also seriously deficient in its analysis of impacts to the Bakersfield community. The document proposes two alternative sites for construction of a Bakersfield Station, each with its own set of significant environmental impacts that are not adequately presented for the public to review. Two alternative track alignments through the City of Bakersfield are presented without adequate analysis of significant impacts to properties that these alignments will impact. For example, the Draft EIR/EIS consistently uses the wrong baseline against which the Project's impacts are compared. (Pub. Resources Code, § 21060.5, 21100(d), 21151(b) [CEQA requires that impacts be evaluated against baseline of existing environmental conditions].) The Draft EIR/EIS also defers formulating mitigation measures that would reduce the Project's adverse noise, vibration, aesthetic, safety and security, and transportation impacts, and the socio-economic impacts from the take of thousands of homes and businesses in Bakersfield. (See *City of Long Beach v. City of Los Angeles Unified School Dist.* (2009) 176 Cal.App.4th 889, 915 ["Impermissible deferral of mitigation measures occurs when an EIR puts of analysis or orders a report without either setting standards or demonstrating how the impact can be mitigated in the manner described in the EIR."].) Beyond these problems, the Draft EIR/EIS is so complex and lengthy that it is impossible for members of the public to understand and evaluate.

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Submission BO071 (George Mihlsten, Coffee-Brimhall LLC (Atty. for), Latham & Watkins LLP, October 13, 2011) - Continued

LATHAM & WATKINS LLP

We look forward to discussing the Authority's plans with respect to Coffee-Brimhall's property and the Bakersfield community in the coming months. Please do not hesitate to contact me should you wish to discuss these matters further at (213) 485-1234.

Very truly yours,

George Mihlsten
of LATHAM & WATKINS LLP

cc: California High-Speed Rail Authority Board of Directors
Thomas Fellenz, Chief Counsel, California High-Speed Rail Authority
Mr. Dan Leavitt, Deputy Director, California High-Speed Rail Authority
Mr. David Valenstein
Christine Mirabel, Esq.
Benjamin Hanelin, Esq.
Mr. Alan Tandy

LA\2309242.4

Response to Submission BO071 (George Mihlsten, Coffee-Brimhall LLC (Atty. for), Latham & Watkins LLP, October 13, 2011)

BO071-1

Thank you for your recent communication regarding the California High-Speed Rail project. Your comments are valuable and essential to the success of the project. The comment period for the Revised DEIR/ Supplemental DEIS for the Fresno to Bakersfield Section has been extended to October 19, 2012. We look forward to providing more information to you as the project progresses and appreciate your continued interest.

BO071-2

Refer to Standard Response FB-Response-GENERAL-01, FB-Response-GENERAL-21, FB-Response-LU-03, FB-Response-LU-04.

BO071-3

Refer to Standard Response FB-Response-GENERAL-01, FB-Response-GENERAL-02, FB-Response-GENERAL-21, FB-Response-GENERAL-22.

Please view the Executive Summary for more information on the environmental review process. Also see the Revised DEIR/Supplemental DEIS, Volume I, Section 3.12, Impacts SO #10 and SO #11, for information on the property displacements and relocations for Bakersfield. Alignment plans and maps of parcels directly affected by the project, where the whole parcel or a portion thereof would be acquired by the project, are provided in Volume III.

Attachment to Submission BO071 (George Mihlsten, Coffee-Brimhall LLC (Atty. for), Latham & Watkins LLP, October 13, 2011) - Latham_Watkins_Letter_Attachment.pdf

CALIFORNIA High-Speed Rail Authority

Press Release

FOR IMMEDIATE RELEASE: October 5, 2011 CONTACT: Rachel Wall, 916.384.9026

HIGH-SPEED RAIL AUTHORITY TO ISSUE REVISED ENVIRONMENTAL REPORT FOR FRESNO-BAKERSFIELD SECTION

SACRAMENTO, Calif. – The California High-Speed Rail Authority announced today that it will issue a Revised Draft Environmental Impact Report (EIR)/Supplemental Draft Environmental Impact Statement (EIS) for the Fresno-to-Bakersfield section of the high-speed train project. The revised environmental document is scheduled to be released next spring. This additional analysis of alternatives in the Fresno to Bakersfield section will not impact the construction schedule, set to begin late next year in Fresno, nor will it affect the Draft EIR/EIS for the Merced-to-Fresno section.

In response to stakeholder, agency, and public feedback on the high-speed train alignment that bypasses Hanford to the east, the Authority will re-introduce an alternative route, along with an alternative station location to serve the Kings/Tulare region along that portion of the Fresno to Bakersfield section. The Authority will also investigate improvements to the existing Fresno to Bakersfield alternatives. This step will also afford additional time to review the information contained in the current Fresno to Bakersfield Draft EIR/EIS.

"Our job is to oversee and provide the best possible high-speed train project for California. We encourage the public to take advantage of this additional step in the Fresno-to-Bakersfield environmental process by continuing to review the current Draft EIR/EIS and provide additional comments next year on the revised document," said Roelof van Ark, CEO of the California High-Speed Rail Authority. "Construction will still begin on schedule in Fresno next year."

The Hanford West Bypass alternative was identified in the 2005 Statewide Program EIR/EIS, and including this alternative is consistent with input from regulatory agencies.

Rather than issuing a Final EIR/EIS for the Fresno-to-Bakersfield section in January as previously scheduled, the Authority will now use the coming 5-8 months to further engineer the additional Hanford West Bypass route and new station alternative, conduct the additional environmental analyses needed, seek "value engineering" opportunities to reduce costs, and make other necessary revisions including those based on comments received through Oct. 13, 2011, after which a "Revised Draft EIR/Supplemental Draft EIS" will be issued for public comment.

Subsequent construction packages are scheduled to begin in mid to late 2013, after the Fresno to Bakersfield section environmental review has concluded.

Planned construction is composed of approximately 140 miles dependent on the alternative selected, and has an estimated contract value of nearly $6 billion. Constructing the backbone of the state's high-speed rail segment is anticipated to generate tens of thousands jobs over the span of construction.

The formal comment period for the Fresno to Bakersfield Draft EIR/EIS section will still end on Oct. 13, 2011, and the revised document, to be issued in the spring of 2012, will have a separate, additional 45-day formal comment period. The public is encouraged to take advantage of the additional time for the Fresno to Bakersfield environmental process to provide further comments on the revised Draft EIR/Supplemental Draft EIS after it is released in the spring. Only comments submitted during the official comment periods will be treated as formal comments and subsequently responded to, in writing, as part of the Final EIR/EIS. As

noted, the Merced to Fresno section's environmental review schedule will not change, the formal comment period for the Merced to Fresno section will end on Oct. 13, 2011.

Local officials welcomed the news.

"Visalia appreciates that the Authority recognizes the need to address concerns and ensure that we have the best possible range of alternatives for the High Speed Rail Project," said Bob Link, Mayor of Visalia. "The City of Visalia remains dedicated to a station that will serve the entire region."

"This remains an important project for the state of California," said Ashley Swearengin, Mayor of Fresno. "The re-release of the Fresno to Bakersfield environmental documents will provide residents the opportunity to work more closely with the Authority and staff over the coming months to better understand the Draft EIR/EIS and to define a high-speed train route through the region that will meet the widest need. While I am pleased that the Authority has listened to local stakeholders by providing additional time to review the draft environmental documents and by re-examining portions of the alignment, I feel strongly that we must stay on track with this project to provide relief to create jobs in the Central Valley, as well as to build a more efficient and economically transformative transportation infrastructure system in California."

"The high-speed train project is one of the largest public infrastructure projects in our state's history and will provide Bakersfield with a better, more efficient connection to the Bay Area and Southern California," said Kern County Supervisor Ray Watson. "It is important to ensure that the alignment through the Fresno to Bakersfield section is thoroughly reviewed and commented on by the public, we're pleased with the additional time to review the document."

"Starting high-speed rail construction next year in the Central Valley, on the backbone of the system, will be an economic boom to our region. Merced will benefit tremendously from this investment in passenger rail transit, including greatly improved connectivity to Southern California and the Bay Area," said Bill Spriggs, Mayor of Merced. "I'm pleased to see that the Authority is working with our neighbors to the South to engineer improvements to the alignment options and I'm satisfied that the 60 days allotted to the greater Merced area was appropriate. I look forward to the selection of an alignment early next year that is embraced by our community."

California's High-Speed Train Project

The California High-Speed Rail Authority is developing an 800-mile high-speed train system that will operate at speeds of up to 220 miles per hour, connecting the state's major urban centers, including the Bay Area, Central Valley, Los Angeles and San Diego. Initial infrastructure construction will begin in the Central Valley, the backbone of the system, in 2012. The project is being funded through a voter-approved state bond, federal funding grants, local funding, and public-private partnerships.

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Submission BO072 (George Mihlsten, Coffee-Brimhall, LLC (Atty. for), Latham & Watkins LLP, September 29, 2011)

09-29-11A11:22 RCVD

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VIA FEDERAL EXPRESS

September 28, 2011

Mr. Dan Leavitt
Deputy Director for Environmental Review and Planning
California High-Speed Rail Authority
Fresno to Bakersfield Draft EIR/EIS Comment
770 L Street, Suite 800
Sacramento, CA 95814

Mr. David Valenstein
Chief, Environment & Systems Planning Division
Office of Railroad Policy & Development
Federal Railroad Administration, U.S. Dept. of Transportation
1200 New Jersey Avenue, SE, MS-20
Washington, DC 20590

Re: California High Speed Train Project Fresno to Bakersfield Section Draft Environmental Impact Report/Environmental Impact Statement (State Clearinghouse No. 2009091126)

Dear Messrs. Leavitt and Valenstein:

We are writing on behalf of our client, Coffee-Brimhall, LLC, to request that the time for public comment on the Draft Environmental Impact Report/Environmental Impact Statement ("Draft EIR/EIS") for the Fresno to Bakersfield section of the California High-Speed Train Project ("Project") be extended through December 13, 2011.

Released on August 15, 2011, the Draft EIR/EIS reveals for the first time (and buried in an appendix) that the Project proposes a temporary take of Coffee-Brimhall, LLC's property, which is entitled for the development of over 2 million square feet of commercial development and 425 residences. (Draft EIR/EIS, at App. 3.1-A pp. 223-24.) Based on our review of the Draft EIR/EIS to-date, the Draft EIR/EIS only appears to address the potential significant impacts to Coffee-Brimhall, LLC's property and approved development in a very superficial manner, literally a couple of sentences. As a result, Coffee-Brimhall, and the rest of the public, is left to wade through thousands of pages to try to understand, first, what the proposed alignment is and, second, what the impacts of proposed alignment are.

BO072-1

LATHAM&WATKINS LLP

Public participation is a key requirement of CEQA and NEPA. CEQA requires that a lead agency provide adequate time for other agencies and members of the public to review and comment on a draft EIR. (CEQA Guidelines, § 15203.) The process of environmental review "derives its vitality from public participation." (*Ocean View Estates Homeowners Assn. v. Montecito Water Dist.* (2004) 116 Cal. App. 4th 396, 400.) Under NEPA, the "EIS process should serve both to alert the public of what the agency intends to do and give the public enough information to be able to participate intelligently in the EIS process." (*California v. Block* (9th Cir. 1982) 690 F.2d 753, 772.)

Given the complexity and size of the Project, the sheer size and length of the Draft EIR/EIS, and the Project's potential impacts on a vast area of the San Joaquin Valley, an extension to the comment period would be appropriate.

This project is one of the largest and most significant (and expensive) projects in the history of California. And for one of the largest and most significant projects in the history of this State, you initially proposed a 45-day comment period, and have now provided only a 15-day extension, for a total of 60 days. That is unbelievable. Small infill projects all over the state provide greater comment periods. For example, the City of Los Angeles provided an ***89-day*** public comment period for the development of 229 single family homes (State Clearinghouse No. 2007121012), a ***90-day*** public comment period for an update to a local community plan (State Clearinghouse No. 2002041009), and a ***116-day*** public comment period for a local recycling center (State Clearinghouse No. 2007041015).

Sixty days is nowhere near enough time for the public to analyze and submit informed comments about a project that will bisect the state, taking thousands of acres of land, hundreds of businesses, and divide communities.

In Bakersfield alone the proposed project will close more than 280 businesses, take more than 230 homes and result in disruptions to health care facilities, churches, and schools. A high-speed rail corridor along a 114-mile route connecting Fresno and Bakersfield, resulting in substantial impacts to the environment, requires more than 60 days for public review. The significant impacts to residents and businesses in the San Joaquin Valley include disruptions to agricultural, commercial, industrial, and residential land uses, and existing and planned transportation infrastructure.

The scope of the Draft EIR/EIS, which has been termed the "heart of CEQA" (*Laurel Heights Improvement Ass'n v. Regents of the University of California* (1988) 47 Cal.3d 376, 392), requires that the California High-Speed Rail Authority provide additional time for the public to review it. We therefore request that the Authority extend the time period for the public to comment on the Draft EIR/EIS through at least December 13, 2011.

Submission BO072 (George Mihlsten, Coffee-Brimhall, LLC (Atty. for), Latham & Watkins LLP, September 29, 2011) - Continued

LATHAM & WATKINS LLP

Please do not hesitate to contact me with any questions at (213) 485-1234.

Very truly yours,

George Mihlsten
of LATHAM & WATKINS LLP

cc: California High-Speed Rail Authority Board of Directors
Thomas Fellenz, Chief Counsel, California High-Speed Rail Authority

Response to Submission BO072 (George Mihlsten, Coffee-Brimhall, LLC (Atty. for), Latham & Watkins LLP, September 29, 2011)

BO072-1

Refer to Standard Response FB-Response-GENERAL-07.

Submission BO073 (Larry Hagopian, Commercial Manufacturing, October 11, 2011)

Fresno - Bakersfield - RECORD #556 DETAIL

Status :	Action Pending
Record Date :	10/11/2011
Response Requested :	No
Stakeholder Type :	Business
Submission Date :	10/11/2011
Submission Method :	Website
First Name :	LARRY
Last Name :	HAGOPIAN
Professional Title :	OWNER/PRESIDENT
Business/Organization :	COMMERCIAL MANUFACTURING
Address :	
Apt./Suite No. :	
City :	Fresno
State :	CA
Zip Code :	93706
Telephone :	(559) 237-1855
Email :	info@commercialmfg.com
Email Subscription :	Fresno - Bakersfield
Cell Phone :	
Add to Mailing List :	Yes

Stakeholder Comments/Issues :

My name is Larry Hagopian. My wife and I own real estate at 2432 S. Railroad Avenue which is leased by our wholly owned company, Commercial Manufacturing, a California corporation. The company was established in 1938 on South G Street (now Golden State Boulevard) and was moved to its present location in 1944 as a result of eminent domain action on the original location. The following comments are being made to the Authority as both land owners and business owners.

I am in favor of the high speed rail following the S. Railroad Avenue right of way. S. Railroad Avenue has been neglected for many years by the City of Fresno. My feeling is that the high speed rail will give the area new life and a better appearance which will enhance the property values. The high speed rail will also give visitors to the area the feeling that it is a thriving industrial area of Fresno City.

The following are some concerns and questions:

BO073-1
Will a plan review done by the City of Fresno to determine City requirements to rebuild on the site be done at no charge to the landowner?
Who will be responsible for the cost of off-site improvements, i.e. curbs, gutters, lighting, fire hydrants, landscaping, water, sewers, gas, and electricity?
Who will be responsible for the cost of on-site improvements if rebuilding is done on the affected property (i.e. landscaping, water, sewers, gas, and electricity?
Who is responsible for the cost of required upgrading of existing buildings if new facility is built on affected property?
If a new building is built on the affected land, will taxes be increased to reflect the value of the new building or maintained at the value of the present buildings?

BO073-2
We currently use East Avenue for delivery and shipping trucks accessing our property. These trucks and trailers can be as long as 48' to 53'. Will East Avenue have a cul-de-sac large enough to turn a 48' to 53' truck and trailer?

BO073-3
Temporary impacted property – will this be rented or purchased from us? How long will it be used? How will rate of compensation be determined? Will full use of property be returned to the landowner?

BO073-4
Who pays for the moving and reinstallation of existing equipment?
How long will the rail authority allow the company to stay in its existing buildings while a new shop and office are being built?
Will there be any unemployment assistance to employees during the construction and moving phase if there is a work stoppage so it is not charged to Commercial Manufacturing?

BO073-5
Will there be any obstructions that could prevent employees or delivery trucks from coming and going as usual? Will access to our property by employees and trucking be guaranteed during construction?

EIR/EIS Comment : Yes

Response to Submission BO073 (Larry Hagopian, Commercial Manufacturing, October 11, 2011)

BO073-1

Refer to Standard Response FB-Response-SO-03, FB-Response-SO-01.

BO073-2

This comment raises concerns regarding the installation of a cul-de-sac along a road that is currently used by an adjoining business for oversized trucks that stop, load, and or pass by, but do not currently turn around. The project has currently only completed 15% design, so specific distances and widths of the street have not ben designed. These constraints would have to be addressed during right-of-way acquisition and final design regarding how the existing truck operation can be accommodated in the design of the project and local road network, such as utilization of a portion of a parcel to allow for a wider turn-around movement, or an equivalent solution. Alternatively, there may be refinements to the HST project that can be further investigated during final design to otherwise accommodate the truck operation.

An EIR project description is intended to be general, not detailed (CEQA Guidelines §15124(c)). Final design or even advanced design of infrastructure is not required in the project description (Dry Creek Citizens Coalition v. County of Tulare (1999) 70 Cal.App.4th 20, 36). Abundant substantial evidence in the record demonstrates the project description in the EIR/EIS is more than adequate. The term "15% design" is an engineering term of art that refers to the level of engineering prepared on HST project elements for the EIR/EIS. The 15% design generates detailed information, like the horizontal and vertical location of track, cross sections of the infrastructure with measurements, precise station footprints with site configuration, and temporary construction staging sites and facilities. The 15% design also yields a "project footprint" overlaid on parcel maps, which shows the outside envelope of all disturbance, including both permanent infrastructure and temporary construction activity. This 15% design translated into a project description in the EIR/EIS with 100% of the information that is required under CEQA Guidelines Section 1512447 (See Dry Creek, supra, 70 Cal.App.4th at pp. 27-36 [upholding EIR conceptual project description as inadequate when based on preliminary design]).This comment raises concerns regarding the installation of a cul-de-sac along a road that is currently used by an adjoining business for oversized trucks that stop, load, and or pass by, but do not currently turn around. These constraints would have to be addressed during right-of-way acquisition and final design regarding how the existing truck operation can be accommodated in the design

BO073-2

of the project and local road network, such as utilization of a portion of a parcel to allow for a wider turn-around movement, or an equivalent solution. Alternatively, there may be refinements to the HST project that can be further investigated during final design to otherwise accommodate the truck operation.

BO073-3

Refer to Standard Response FB-Response-SO-03, FB-Response-SO-01.

Please see Appendix A of the Community Impact Assessment Technical Report for a complete description of the methodologies used for property displacement analysis (Authority and FRA 2012g). To be conservative in conducting this analysis and to avoid underestimating displacements, residences and businesses located on acquired parcels, including those only temporarily impacted, were counted as permanent displacements. This was done because it is not possible at this stage of the project to predict the outcome of the parcel by the parcel property acquisition phase.

BO073-4

Refer to Standard Response FB-Response-SO-01, FB-Response-SO-03.

BO073-5

Refer to Standard Response FB-Response-TR-01.

Submission BO074 (Jeff Tanielian, Commercial Neon Inc., September 29, 2011)

Fresno - Bakersfield (May 2011 – July 2012) - RECORD #332 DETAIL

Status :	Action Pending
Record Date :	9/29/2011
Response Requested :	
Stakeholder Type :	Business
Submission Date :	9/29/2011
Submission Method :	Website
First Name :	Jeff
Last Name :	Tanielian
Professional Title :	President/Owner
Business/Organization :	Commercial Neon Inc.
Address :	
Apt./Suite No. :	
City :	Fresno
State :	CA
Zip Code :	93722
Telephone :	559-275-7500
Email :	wendyk@commneon.com
Email Subscription :	
Cell Phone :	
Add to Mailing List :	No
Stakeholder Comments/Issues :	I am a property owner at 5547 N. Golden State Blvd. Fresno CA 93722. This letters is to inform you I APPOSE THE HIGH SPEED RAIL, for alot of reasons. Specifically for cutting my business property in half and all the obvious problems that would go along with that.
EIR/EIS Comment :	Yes
Affiliation Type :	Businesses and Organizations
Official Comment Period :	Yes

BO074-1

Response to Submission BO074 (Jeff Tanielian, Commercial Neon Inc., September 29, 2011)

BO074-1

Refer to Standard Response FB-Response-GENERAL-14.

The property referenced in your letter (5547 N. Golden State Blvd., Fresno, CA 93722) lies within the project footprint for the Merced to Fresno Section of the HST System, which adjoins the Fresno to Bakersfield Section in the city of Fresno. The Final EIR/EIS for the Merced to Fresno Section was issued in April 2012. The Authority has commenced the right-of-way appraisal process for the southern extent of the Merced to Fresno Section, south of Avenue 17 in Madera and has determined that a portion of the subject property will be acquired. The Authority has contacted you to arrange for a fair market value appraisal of your parcel.

Submission BO075 (James Janz, Community Coalition on High Speed Rail (CC-HSR), August 17, 2011)

community coalition on high speed rail

AUG 17 2011
2592

August 16, 2011

Tom Umberg, Chair
Board of Directors
California High-Speed Rail Authority
770 L Street, Suite 800
Sacramento, CA 95814

RE: Request For Extension of EIR/EIS Comment Period – Central Valley Segments

Dear Mr. Umberg and Board Members:

This letter is our request that the Board of Directors of the California High-Speed Rail Authority extend the comment period on the Draft Environmental Impact Report (EIR) and the Draft Environmental Impact Statement (EIS) prepared on both the Fresno to Bakersfield segment and the Merced to Fresno segment of the proposed California high-speed train project. A Draft EIR/EIS for each of these segments was released by the Authority on Tuesday, August 9, 2011, with the Authority indicating that comments on these documents must be submitted by September 28, 2011. This is, essentially, a forty-five (45) day comment period. We urge that the Authority to extend the comment period to ninety (90) days, or until November 10, 2011.

The California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) are intended to make sure that governmental decisions that might affect the environment are made only after the decision makers are fully informed of the potential environmental impacts of their proposed actions. Without an adequate opportunity for public participation and comment on the Draft EIR/EIS, the Authority will not have an adequate informational document upon which to base its decision on the routing and related decisions affecting these Central Valley segments of the proposed high-speed train system.

The stakes are very high with respect to the impacts that are likely to be associated with the proposed project. There will be massive impacts on working farms and the local farm economy, all along the route, with associated social and economic impacts; there will be significant air quality, global warming, and transportation impacts; there will be very significant impacts on endangered species and wetlands; there will be very significant impacts on prime agricultural land; there will be significant public health and safety issues, and significant growth-inducing impacts. Furthermore, there are a number of possible alternatives and mitigations that should be considered, and this will require detailed analysis. All of these issues must be addressed thoroughly, and in detail, and the ability of the Authority to do an adequate and required review is directly tied to the quality of the public comment received.

Forty-five (45) days is simply not an adequate time period to allow the kind of public involvement and comment that both CEQA and NEPA require in connection with the environmental review of a project of this extent and complexity. The proposed project is the first stage of what would be the *largest public infrastructure project in the history of the State of California*, and something like $6 billion dollars are proposed to be expended on the proposed project between Fresno and Bakersfield. It would be unconscionable for the Authority not to provide at least a ninety (90) day review period.

The Community Coalition on High Speed Rail is a grassroots, non-profit corporation, based on the San Francisco Peninsula, that is working through public advocacy, litigation, and political action to make sure the proposed California High Speed Rail project doesn't adversely affect the economy, environment, or quality of life of California's existing communities. For more information please visit: www.cc-hsr.org

BO075-1

Much of the area within which the project is proposed, within the Fresno to Bakersfield section, is rural and agricultural land. The residents who know the most, and whose comments are going to provide the information that both CEQA and NEPA demand be provided, are largely working farmers and their families. A forty-five (45) day review period, during the months of August and September, comes at a time, both in terms of vacation schedules and the normal course of agricultural operations in the affected area, during which farmers and local residents are *least* able to engage in the comment and review process. In order to allow those most affected with a reasonable opportunity to participate, a ninety (90) day review period is required.

Furthermore, we and others take very seriously the need to bring forth factual materials relating to the adverse impacts that the proposed project is likely to cause. The whole purpose of CEQA and NEPA is to make sure that the decision makers have the best possible information, before making a decision that might adversely affect the environment. In order to be able to have appropriate expert comment, it is absolutely vital that the comment period be extended, as we are requesting.

Again, we urge you, in the strongest terms possible, to extend the review period to provide the public ninety (90) days, not forty-five (45) days, to comment on the potential environmental impacts of the proposed project in both the Merced to Fresno and in the Fresno to Bakersfield section.

Thank you for your positive response to this request.

Yours truly,

James R. Janz
President
CC-HSR Board of Directors

cc: Governor Brown
Members, California State Senate
Members, California State Assembly
Congress Members Eshoo and Speier
Other Interested Persons

The Community Coalition on High Speed Rail is a grassroots, non-profit corporation, based on the San Francisco Peninsula, that is working through public advocacy, litigation, and political action to make sure the proposed California High Speed Rail project doesn't adversely affect the economy, environment, or quality of life of California's existing communities. For more information please visit: www.cc-hsr.org

Response to Submission BO075 (James Janz, Community Coalition on High Speed Rail (CC-HSR), August 17, 2011)

BO075-1

Refer to Standard Response FB-Response-GENERAL-07.

Submission BO076 (James Janz, Community Coalition on High-Speed Rail (CC-HSR), September 15, 2011)

communitycoalition
on high speed rail

09-15-11P03:03 RCVD

September 14, 2011

Chairperson and Members
California High-Speed Rail Authority
770 L Street, Suite 800
Sacramento, CA 95814

RE: Extension of Comment Period for Merced to Fresno
And Fresno to Bakersfield Draft EIR/EIS Documents

Dear Chairperson Umberg and Board Members:

BO076-1

The Community Coalition on High-Speed Rail (CC-HSR) has been closely following the state's proposed high-speed train project, and this letter is to request that the High-Speed Rail Authority take immediate action to provide an adequate comment period for the above-noted environmental review documents. Specifically, we urge the Authority to extend the time to comment on these two EIR/EIS documents until mid February, 2012, thus providing members of the public and those directly affected by the proposed project with at least 6 months to respond and provide comments on the two Draft EIR/EIS documents released by the Authority on August 9, 2011.

Attached is a copy of a letter making an identical request for the Fresno to Bakersfield EIR/EIS, submitted to you by the Griswold LaSalle law firm on behalf of the J.G. Boswell Company. We join in this request, and incorporate the same arguments here. We note that the need for and the justification for a six-month review period applies equally to *both* of the Draft EIR/EIS documents currently open for comment. In fact, since this is a statewide project, which the Authority has chosen to design and review in segments, a competent and truly responsive set of comments on the impacts that will be created on any particular segment must take into account the impacts of the proposed project on other segments. This means that members of the public who want to comment on the Draft EIR/EIS for either of the segments currently being reviewed must take into account the contents of *both* of the Draft documents, as well as the contents of the previously-certified statewide programmatic EIR/EIS. In short, the Griswold LaSalle letter is conservative in stating that members of the public are being asked to review 17,000 pages of technical material, and to provide comments, all within a 60-day period. In fact, the volume of material that must be reviewed is probably close to three times that amount.

As the attached letter convincingly demonstrates, a 60-day comment period is grossly inadequate. CEQA, and the CEQA Guidelines, and basic due process require a much more extensive comment period.

The business and community impacts of the proposed project, on both of these segments, is likely to be extremely substantial, and for knowledgeable business people and residents to be able to make informed and helpful comments – comments that can allow the state to avoid impacts that may, in fact, be avoidable – additional time must be provided. Because decisions made on these segments will impact the San Francisco Peninsula, where many of our most active members and supporters reside, we wish to participate in the process in a positive way. We can't, however, have the kind of positive impact that we would like to have unless we are given an adequate time to review and respond to the complexities of the project as proposed.

In short, a 60-day comment period does not provide the public with an "adequate" time to comment, and the failure of the Authority to provide an adequate time to comment undermines the integrity of the current environmental review procedure. This means that the residents, business persons, and landowners most directly affected by the proposed project are being denied an elemental due process opportunity to "be heard" before the government takes actions that could have drastic and adverse consequences for both communities and individuals who live along or in the areas affected by both the Merced to Fresno and the Fresno to Bakersfield segments of the proposed high-speed train project.

As CEQA provides, at Public Resources Code Section 21005 (a):

> The Legislature finds and declares that it is the policy of the state that noncompliance with the information disclosure provisions of this division which precludes relevant information from being presented to the public agency, or noncompliance with substantive requirements of this division, may constitute a prejudicial abuse of discretion within the meaning of Sections 21168 and 21168.5, regardless of whether a different outcome would have resulted if the public agency had complied with those provisions.

We urge the Authority to take seriously its responsibility to make sure that information about the impacts of the proposed project are truly disclosed to the Authority, as the public agency responsible for making decisions on the project, prior to the time that those decisions will be made. An inadequate comment period will prevent relevant information from reaching the Authority in a timely way, and this would violate the requirements of the law. The current 60-day review period is not fair, and is inconsistent with both CEQA and the due process requirements of the California Constitution.

Again, we ask the Authority for a six-month period to comment on environmental review documents for the largest public works project ever proposed in the State of California. Failure to provide an adequate comment period is a violation of both the law and due process.

Very truly yours,

James R. Janz, President
Community Coalition on High-Speed Rail

cc: Members and Supporters, CC-HSR
Governor Jerry Brown
Members, California State Legislature
Other Interested Persons

The Community Coalition on High Speed Rail is a grassroots, non-profit corporation, based on the San Francisco Peninsula, that is working through public advocacy, litigation, and political action to make sure the proposed California High Speed Rail project doesn't adversely affect the economy, environment, or quality of life of California's existing communities. For more information please visit: www.cc-hsr.org

The Community Coalition on High Speed Rail is a grassroots, non-profit corporation, based on the San Francisco Peninsula, that is working through public advocacy, litigation, and political action to make sure the proposed California High Speed Rail project doesn't adversely affect the economy, environment, or quality of life of California's existing communities. For more information please visit: www.cc-hsr.org

Response to Submission BO076 (James Janz, Community Coalition on High-Speed Rail (CC-HSR), September 15, 2011)

BO076-1

Refer to Standard Response FB-Response-GENERAL-07.

Attachment to Submission BO076 (James Janz, Community Coalition on High-Speed Rail (CC-HSR), September 15, 2011) - 850_Janz_letter_091511_Attachment.pdf

Robert M. Dowd*
Robert W. Gin*
Randy L. Edwards
Jim D. Lee
Jeffrey L. Levinson*
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Ty N. Mizote*
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Lyman D. Griswold
(1914-2000)
Michael E. LaSalle
(Retired)
Steven W. Cobb
(1947-1993)

September 8, 2011

VIA UPS NEXT DAY AIR SAVER
TRACKING NO. 1Z F74 78R 13 9995 0584

Board of Directors
CALIFORNIA HIGH SPEED RAIL AUTHORITY
770 L Street, Suite 800
Sacramento, CA 95814-3359

Re: Extension of Draft EIR/EIS Comment Period - Fresno to Bakersfield HSR
SCH # 2009091126

Dear Chairman and Members of the Board:

This letter is submitted on behalf of J.G. Boswell Company. The purpose of this letter is to request an extension of the comment period on the above Draft EIR/EIS for at least 6 months, through mid-February 2012.

The existing comment period is grossly inadequate and denies due process to those seeking to comment on the EIR/EIS. The initial 45 day comment period, later extended only 15 additional days to October 13, 2011, is plainly insufficient to allow any meaningful comment on 17,000 pages of documents.[1] See Appendix A for list of documents and page lengths. The 17,000 page total does not include any documents for the Merced to Fresno segment (SCH # 2009091125), which would bring the total to over 30,000.

The EIR/EIS is not user friendly. For example, Chapter 10 of the EIR/EIS lists 831 sources that are referenced in the report. In instances noted so far, these sources are referenced without internal citations, requiring the reviewer/commenter to obtain the document, review it, and make a judgment as to which part was intended to support the citation in the EIR/EIS. This lack of

[1]It also appears the EIR/EIS and supporting documents are available in English only.

specific citations makes it difficult to determine whether a statement made in the EIR/EIS is supported by substantial evidence.

Due to the requirements of CEQA,[2] meaningful public comment is the key phase of the CEQA public review process. The CEQA process becomes a sham without it, and results in a denial of due process.

In 2004 the Authority released the Draft Program EIR/EIS for the Proposed California High-Speed Train System (SCH # 2001042045). The State Clearinghouse set a review period of February 13, 2004 to August 31, 2004, or 6 1/2 months, for this Program EIR/EIS. It neither makes sense, nor is there any good reason, why the review period for the Program EIR/EIS was more than 6 1/2 months while the review period for the much more detailed Project specific EIR/EIS is only 2 months.

In view of the above, we believe that at least a 180 day comment period is required, ending mid-February 2012 as measured from August 15, 2011. This matter requires Board, rather than administrative, attention, and, accordingly, we request this matter be placed on the agenda for a special meeting at the Board's earliest convenience. As the Board's next regularly scheduled meeting is not until September 22, 2011, the urgency of this issue demands it be dealt with before then.

We understand that the EIR/EIS was released on August 9, 2011. The orginial comment period was for 45 days, beginning August 15, 2011 and ending September 28, 2011. This time limit was apparently set by staff without Board involvement. The 45 day period is the minimum under CEQA Guidelines § 15105(a). This time period makes no allowance for the unparalleled scope of the project.

At the August 25, 2011 Board meeting, a petition signed by about 300 Kings County residents was submitted by Hanford-area farmer Frank Oliveira on behalf of the Citizens for California High Speed Rail Accountability (CCHSRA). These citizens asked for a 45 day extension, making for a total of a 90 day review and comment period. The request was not on the Board's meeting agenda, but staff did grant an additional 15 days to the original 45 day comment period for a total of 60 days. The comment period now ends October 13, 2011 which corresponds to the end date of the State Clearinghouse (SCH) review period.

[2]All statutory references to CEQA are to Public Resources Code §§ 21000 et. seq. CEQA's implementing regulations are known as the "CEQA Guidelines" and are set forth at 14 Cal. Code Regs. §§ 15000 et seq., and are referred to as "CEQA Guidelines § _____" or as "Guidelines § _____."

Attachment to Submission BO076 (James Janz, Community Coalition on High-Speed Rail (CC-HSR), September 15, 2011) - 850_Janz_letter_091511_Attachment.pdf - Continued

The High Speed Rail (HSR) project is the largest and most expensive infrastructure project in the history of the State of California and even its component parts -- the Fresno to Bakersfield segment, or the Merced to Fresno segment, -- could fairly be estimated to be the largest infrastructure projects in State history, and certainly in the history of the San Joaquin Valley.

As stated above, the EIR/EIS for the Fresno to Bakersfield segment, select supporting documents, and technical data available at the Fresno-Bakersfield EIR/EIS web page consist of 17,000 pages (See Appendix A). Not all the documents referenced in the EIR/EIS are available at that web page. If one includes the EIR/EIS and related documents for the Merced to Fresno segment, the total pages to be reviewed approaches 30,000 or more. The sheer volume of material necessitates a significant extension of the review and comment period. Two basic reasons support the extension; these reasons are explained below.

I. THE SIXTY DAY REVIEW PERIOD FAILS TO MEET CEQA REQUIREMENTS BECAUSE IT FAILS TO PROVIDE AN "ADEQUATE TIME" TO REVIEW THE MASS OF MATERIAL ONLY LATELY RELEASED FOR PUBLIC REVIEW AND COMMENT.

CEQA Guidelines § 15203 states:

> "The lead agency *shall* provide **adequate time** for other public agencies *and members of the public to review and comment* on the draft EIR or negative declaration that it has prepared." (Emphasis added.)

Adequate time is required not only because "Public participation is an essential part of the CEQA process" (CEQA Guidelines § 15201), but because the Legislature has declared that the purposes of the review period include:

(a) Sharing expertise;
(b) Disclosing agency analysis;
(c) Checking for accuracy;
(d) Detecting omissions;
(e) Discovering public concerns; and
(f) Soliciting counter proposals.

CEQA Guidelines § 15200.

The Legislature has declared:

> "The maintenance of a quality environment for the people of this state now and in the future is a matter of statewide concern." Pub. Res. Code § 21000(a).

And:

> "Every citizen has a responsibility to contribute to the preservation and enhancement of the environment." Pub. Res. Code § 21000(e).

There can be no question that CEQA and the CEQA Guidelines were developed to allow the public every possible opportunity to meaningfully participate in the EIR/EIS process.

Given the mere 60 day review period, none of the purposes of EIR/EIS review and comment can be served, for the following two major reasons:

1. **The time for review that the Authority has chosen does not allow the public "adequate time" for public review and comment, as required by CEQA Guidelines § 15203. To examine some 17,000 pages within 60 days requires a person to read 283 pages per day and no time to prepare responsive comments. The initial review period of 45 days was simply more egregious and required 378 pages per day to be read.**

In comparison, a 45 day EIR review and comment period was recently used for an ordinance by the City of Sunnyvale to prohibit single use plastic bags at grocery stores. (See City of Sunnyvale Single-Use Carryout Bag Ordinance Draft EIR, SCH #2011062032 August 2011). That EIR consisted of 210 pages which amounts to reviewing 4.6 pages per day. The High Speed Rail Authority (Authority) expects 61 times more effort per day just to read the mass of CEQA documentation for the Fresno to Bakersfield HSR project.[3] Such an expectation is unrealistic, unfair, and does not meet the requirement of CEQA to have adequate review period. At the "plastic bag ordinance" rate of 5 pages per day, the review period for the 16,953 pages of the Fresno-Bakersfield HSR EIR/EIS would be 3,391 days or about 9.3 years (16,953 pages x day/5 pages = 3,391 days x 1 year/365 days = 9.289 years).

These simple metrics, of course, in no way imply that the Fresno-Bakersfield HSR project is in any way comparable to Sunnyvale's plastic bag ordinance project. The former is an infinitely

[3]Also this does not include the EIR/EIS for the Merced-Fresno segment.

Attachment to Submission BO076 (James Janz, Community Coalition on High-Speed Rail (CC-HSR), September 15, 2011) - 850_Janz_letter_091511_Attachment.pdf - Continued

more complex project proposing vast, irreversible commitments of public and private resources on the largest scale in the history of the San Joaquin Valley.

Persons who wish to comment and share their expertise, provide analysis, check for accuracy, voice their concerns, and prepare counter proposals will never be able to do so because they will never be able to review all the documents and comment in a mere 60 days.

2. **While the regulations typically allow for a 45 to 60 day comment period, the regulations also allow that time to be exceeded, without the need to otherwise stop the project, in "unusual circumstances." CEQA Guidelines § 15105(a). The HSR certainly qualifies as an unusual circumstance. In no way can the HSR project be compared to other projects in the history of the State of California and the San Joaquin Valley. Therefore, the 60 day period must be extended.**

The Legislature has declared:

> "... it is the policy of the state that projects to be carried out by public agencies be subject to the same level of review and consideration [under CEQA] as that of private projects required to be approved by public agencies." Pub. Res. Code § 21001.1.

A private company would never be allowed to undertake a project of this magnitude and be subject to a mere 60 day review period. Given the scope of the project, it is difficult to imagine that there could be a more "unusual circumstance" that would allow the typical comment period to be extended.

The "unusual circumstances" provision of CEQA Guidelines § 15105(a) gives the lead agency the necessary flexibility to set the comment period consistent with the meaningful public participation and due process goals of CEQA. This flexibility eliminates the absurdity of a "one size fits all" rule which would provide equal 45 day review and comment periods to the Sunnyvale plastic bag ordinance and the Fresno to Bakersfield HSR project. Nor must we omit that the review and comment period for the Merced to Fresno Draft EIR/EIS runs concurrently, compounding the insufficiency of the alloted time.

The Legislature has also declared that it is the policy of the state that:

> "Documents prepared pursuant to [EIR requirements] be organized and in a manner that will be meaningful and useful to decisionmakers and to the public." CEQA Guidelines § 21003.

Given the sheer volume of the documentation, in order to make the documents "meaningful and useful" there must be adequate time to review them. With only 60 days, neither the decisionmakers nor the public can make the determination of whether the EIR/EIS documents satisfy that criteria because there is insufficient time to so do.

The Authority claims transparency in its proceedings but this claim rings hollow at this crucial juncture. The Authority's "Environmental Review Fact Sheet" states:

> "The California High-Speed Rail Authority (CHSRA) and the Federal Railroad Administration (FRA) are the state and federal agencies responsible for the environmental review of the state's high-speed train system, **and together they have implemented a more transparent, collaborative and inclusive approach to the EIR/EIS process than is typical or required**, with state and local planning agencies, local communities and the general public integrated into the entire process." (Emphasis added.)

This statement is not true as to meaningful public participation and satisfaction of due process. The key point in the CEQA process is at hand and the 60 days allotted to review and comment on 17,000 pages of material for the Fresno to Bakersfield segment stacks the deck against the commenting parties. The point is exacerbated when the additional thousands of pages for the Merced to Fresno EIR/EIS are added.

II. THE SIXTY DAY REVIEW PERIOD DENIES DUE PROCESS TO INTERESTED PARTIES DUE TO THE LENGTH AND COMPLEXITY OF THE ENVIRONMENTAL DOCUMENTS FOR THE FRESNO-BAKERSFIELD HSR.

Any review period less than six months raises serious constitutional issues. The public is entitled by statute and regulation to have a meaningful review. By only allowing 60 days to review 17,000 pages of documents associated with the Fresno to Bakersfield EIR/EIS, the Authority has essentially made the public review meaningless. The Legislature has allowed the public to participate in the CEQA process as a participant and not just a spectator. By bombarding the public with documents without any hope for a complete review, the Authority has put the public on the sidelines, and due process will be violated should there be no extension.

Rights granted by CEQA must allow the public to have a meaningful review because the Legislature has recognized that "Every citizen has a responsibility to contribute to the preservation and enhancement of the environment." Pub. Res. Code § 21000(e).

CEQA was enacted in 1970 and provides a detailed process for public review. It is a "powerful tool for citizen action and government accountability." Note, The Timber Harvest Plan

Attachment to Submission BO076 (James Janz, Community Coalition on High-Speed Rail (CC-HSR), September 15, 2011) - 850_Janz_letter_091511_Attachment.pdf - Continued

Exemption from the California Environmental Quality Act: Due Process and Statutory Intent, 41 Hastings L.J. 727, 730 (1990). In fact, the purpose of the EIR/EIS is:

> "... to provide public agencies and the public in general with detailed information about the effect which a proposed project is likely to have on the environment; to list ways in which the significant effects of such a project might be minimized; and to indicate alternatives to such a project." Pub. Res. Code § 21061.

Courts have called the EIR/EIS an "environmental 'alarm bell' whose purpose is to alert the public and its responsible officials to environmental changes *before* they have reached ecological points of no return." Santiago County Water District v. County of Orange, 118 Cal.App.3d 818, 822 (1981). To accomplish this purpose, CEQA statutes and regulations require that the public be made part of the process, including:

- Comments be accepted by the public at anytime during the EIR/EIS process (Pub. Res. Code § 21003.1(a));
- The lead agency **must** respond, in writing, to all comments received during the comment period (Pub. Res. Code § 21004);
- Relevant information should be made available as soon as possible to the public (Pub. Res. Code § 21003.1(b));
- Notice must be given to all those who have requested such when the draft EIR/EIS is complete (Pub. Res. Code § 21092);
- Draft EIR/EIS documents should be made available in local libraries (CEQA Guidelines § 15087(g));[4]
- The Public agency must publish notice in a paper of general circulation in the area of the proposed project (CEQA Guidelines § 15087(a));
- Public hearings on the documents are encouraged (CEQA Guidelines § 15087(i)); and

[4]Note that the Technical Appendices to the EIR/EIS, listed as nos. 4-43 on Appendix A, were not made available at local libraries. This is important because the appendices are referenced throughout the EIR/EIS.

- An adequate public review period is required and can be extended in unusual circumstances (CEQA Guidelines § 15105) (emphasis added).

CEQA regulations take public participation so seriously that the process provides grounds upon which judicial review of the project may be obtained. CEQA Guidelines § 15112.

Because public review and participation is expressly granted by statute and regulation, any review period less than six months raises serious constitutional issues under the circumstances. The public is entitled by statute and regulation to have a meaningful review. By only allowing 60 days to review some 17,000 pages of documents associated with the EIR/EIS, the Authority has essentially made the public review meaningless. The Legislature intends for the public to participate in the CEQA process in a meaningful way; in this case, requiring sufficient and adequate time for review. By releasing to the public a large quantity of documents without any hope for a complete much less a meaningful review, the Authority has made the public a spectator, and due process will be violated should there be no significant extension of time to review and comment on the documents.

1. State Constitutional Issues

The CEQA statutes and regulations, as applied, violate California Due Process requirements because the Authority has failed to provide adequate time for EIR/EIS review. In order to remedy the as applied violation, sufficient time to review the EIR/EIS must be granted.

Due process safeguards in this context are analyzed with the principle in mind that all should be free from arbitrary adjudicative procedures. People v. Ramirez, 25 Cal.3d 260, 268 (1979). A fundamental concept of due process is "the right to a reasoned explanation of government conduct that is contrary to the expectations the government has created by conferring a special status upon an individual." Id. at 276. Here, CEQA statutes and regulations confer a special status on the public by requiring meaningful review; yet the Authority has taken away that right by imposing an unreasonable review period, and providing no explanation therefor.

To determine the level of due process required, courts examine:

1. The private interest that will be affected by the official action;
2. The risk of an erroneous deprivation of such interest through the procedures used, and the probable value, if any, of additional or substitute procedural safeguards;
3. The dignitary interest in informing individuals of the nature, grounds and consequences of the action and in enabling them to present their side of the story before a responsible governmental official; and

Attachment to Submission BO076 (James Janz, Community Coalition on High-Speed Rail (CC-HSR), September 15, 2011) - 850_Janz_letter_091511_Attachment.pdf - Continued

4. The governmental interest, including the function involved and the fiscal and administrative burdens that the additional or substitute procedural requirement would entail. Id. at 269.

The private interest here is compelling; CEQA statutes and regulations mandate that the public be allowed meaningful and adequate review of the EIR/EIS. In this respect, the Legislature has already determined that the public has a significant interest in proper review.

The risk that the private interest will be erroneously deprived is high; in fact it is happening. Although the regulations allow the Authority to declare the most expansive and expensive infrastructure project in the history of California an "unusual circumstance" and provide additional time for public review and comment, the Authority has (so far) failed to so do and without any explanation. In addition, as the Authority is well aware, the review period ends the time that individuals may comment and preserve issues that must be on the record for judicial review. By completing the review period before it is possible for stakeholders to read the documents and provide comments, the Authority is also precluding meaningful review following the final EIR/EIS being issued. Rigid adherence to the 45 or 60 day periods mentioned in Guidelines § 15105(a) therefore guarantees denial of due process for projects of the scope of this EIR/EIS.

The dignity interest weighs heavily in favor of an extension of time. It is inconceivable that the public could be charged with reading and commenting on the EIR/EIS, only to find out that it is impossible to do so because there is insufficient time to read the documents in this case.

Finally, the governmental interest in providing additional time is identical to the private interests. The Legislature has already made this determination by stating that the public is entitled to meaningful and adequate review, and putting in place an entire scheme to ensure such review occurs. The government has a significant interest in ensuring that its own statutes and regulations are followed, especially when no fiscal or administrative burdens are involved beyond the passage of time.

As the Federal Railroad Administration is the lead Federal agency designated on the HSR project, the purpose and requirements of the National Environmental Policy Act (NEPA) are also at issue. The purpose of NEPA review corresponds to CEQA review. Congress has declared, "... it is the continuing policy of the federal Government, ... in cooperation with State and local governments, and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance ... to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans." (42 U.S.C. § 4331). Therefore the purposes of NEPA also support the extension requested herein.

2. **Federal Constitutional Issues**

Due process under the federal constitution requires that an entitlement exist under state law. There can be no question that the Legislature has entitled the public to a meaningful and adequate review of the EIR/EIS documents through the CEQA statutes and regulations. It is merely a question of what process is due.

Pursuant to Mathews v. Eldridge, 424 U.S. 319 (1976), to determine what process is due, the state should look at the private interests involved, the risk of an erroneous deprivation and value of additional safeguards, as well as the governmental interest.

Again, the public's interest is high; the public is entitled to a proper review under CEQA but such a review cannot be met in such a short and arbitrary time frame currently established by the Authority. Denial of that proper review, in turn, prejudices the rights of potential litigants who are subject to the exhaustion doctrine. Denial of adequate, proper, and meaningful review stacks the deck in favor of the project proponent, who here is also the reviewing agency. This conflict of interest between the duty of full, objective CEQA review and support of the HSR project is clearly brought out by the denial of a meaningful adequate public review and comment period.

The risk that rights may be erroneously deprived is high. By the Authority arbitrarily setting the review period in this circumstance such that it is impossible for the public to respond, a deprivation is not only possible, but is a certainty where no due process was given in setting the initial review period. As the Authority knows, EIR/EIS challenges must be made on comments lodged during the review period. What the Authority has done is present to the public a large volume of documents such that there is no possibility for all necessary comments to be included in the record, effectively precluding a proper legal challenge to the EIR/EIS documents following a finalization of those documents, and denying access to the courts.

Finally, the governmental interest, as under the state due process requirements, is in concurrence with the private interest. Again, the Legislature has already made this determination by stating that the public is entitled to meaningful and adequate review, and putting in place an entire scheme to ensure such review occurs. The government has a significant legitimacy interest in ensuring that its own statutes are followed, especially when no fiscal or administrative burdens are involved.

Here, there has been no due process as to the setting of this review period. The setting of this review period for the same length for a local ordinance reflecting plastic bag usage, without an explanation or an opportunity to be heard and challenge the determination, violates the Fourteenth Amendment of the United States Constitution, as well as the California Constitution. As has been said many times, the fundamental requisite of due process of law is the opportunity to be heard, and

Attachment to Submission BO076 (James Janz, Community Coalition on High-Speed Rail (CC-HSR), September 15, 2011) - 850_Janz_letter_091511_Attachment.pdf - Continued

that right has little reality or worth unless the public is informed and can choose for iteself whether to participate. Mullane v. Central Hanover Bank & Trust Co., 339 U.S. 306, 314 (1950). In this case, the public cannot know, and can never know under the limited review period what position and comments it should make relating to the EIR/EIS, had it been afforded an adquate review period.

"Due process is flexible and calls for such procedural protections as the particular situation demands." Mathews v. Eldridge, 424 U.S. 319, 334. In this situation, due process calls for a reasonable number of days to review the EIR/EIS and supporting documents. We ask for at least a 180 day review period, for all the reasons stated.

Very truly yours,

GRISWOLD, LaSALLE, COBB,
DOWD & GIN, L.L.P.

By: _____
ROBERT M. DOWD

APPENDIX A
LIST OF REPORTS
COMPRISING FRESNO TO BAKERSFIELD
DRAFT EIR/EIS
AND SUPPORTING DOCUMENTS

Below is a list of the documents posted at the HSRA web page for the Fresno to Bakersfield EIR/EIS (nos.1-3) and related documents (nos. 4-43), with their page counts. The purpose of the compilation is to show the inequity and lack of due process afforded by the 60 day public review and comment period. Note that item nos. 4 through 43 are posted at the HSRA web page for the Fresno to Bakersfield EIR/EIS and are referred to in the EIR/EIS. However, items nos. 4-43 are not included in the EIR/EIS and are not provided on the EIR/EIS cds given out by the HSRA office in Hanford. Also, items nos. 4-43 are not available with the hard copy EIR/EIS available for public review at the HSRA office in Hanford and at the Kings County Library in Hanford.

1.	EIR/EIS Volume I	1,556
2.	EIR/EIS Volume II	804
3.	EIR/EIS Volume III	940
4.	Transportation Analysis Technical Report Draft 8/11	242
5.	Figures for Chapters 4 and 5 above	199
6.	Appendix A Traffic Counts Data	537
7.	Appendix B Existing Synchro Output	423
8.	Appendices C through E, Future Assumed Improvements et al.	833
9.	Appendices F through I, Future Plus Project Synchro Output et al.	929
10.	Air Quality Technical Report Draft 8/11	168
11.	Air Quality Technical Report Appendix A Construction Emissions	713
12.	Noise and Vibration Technical Report 7/11	424
13.	Hydrology and Water Quality Technical Report 8/11	158
14.	Geology, Soils, and Seismicity Technical Report 7/11	92
15.	Hazardous Wastes and Materials Technical Repot 8/11	188
16.	Appendix A Regulatory Database Search Report	4,287
17.	Appendix B PEC Site Summaries w/ Sanborn Map Review	10
18.	Appendix C Historic Topo Maps	168
19.	Appendix C Sanborn Fire Insurance Maps Part 1 of 4	61
20.	Appendix C Sanborn Fire Insurance Maps Part 2 of 4	61
21.	Appendix C Sanborn Fire Insurance Maps Part 3 of 4 (Pt. 4 beg. P. 62)	107
22.	Appendix D Site Reconnaissance, Field Notes, Photographs and Photo Logs Part I	482
23.	Appendix D Site Reconnaissance, Field Notes, Photographs and Photo Logs Part II	344
24.	Community Impact Assessment Technical Report 7/11	578

Attachment to Submission BO076 (James Janz, Community Coalition on High-Speed Rail (CC-HSR), September 15, 2011) - 850_Janz_letter_091511_Attachment.pdf - Continued

Submission BO077 (Gregory & Timothy Cooper, Cooper Farms, Inc., October 11, 2011)

COOPER FARMS, INC
P.O. BOX 97
CORCORAN, CA 93212

10-11-11P02:24 RCVD

October 5, 2011

RECEIVED

Fresno to Bakersfield Draft EIR/EIS Comment
770 L Street, Suite 800
Sacramento, CA 95814

Dear Sirs:

We operate a 300 acre farm located adjacent to Hwy 43, just north of Ave 144 about 3 miles south of Corcoran in Tulare County. (Sec 31 Township 21 Range 23) Our family has farmed this land since 1955.

On this property are three residences, office and three shop buildings. The property is all underground pipelined with irrigation valves for flood irrigation. The irrigation water is supplied by 3 deep wells; one lift pump and 2 return systems. The fields have been leveled to irrigate south. Each residence has a domestic well.

HSR BYPASS ROUTE

This proposal, as we understand it, would roughly run right through the middle of the property. This would, in effect, cut across six pipelines, isolating the West Side of the ranch. Pipelines, access roads and return systems would have to be relocated at great expense. Fields would have to be re-leveled. This route would also come within 150 feet of one of the residences making it necessary for the HRS to relocate underground phone, electrical service and provide an access road to Hwy 43. The other residences being within a quarter mile would also see a great reduction in their value.

THE EXISTING RAILROAD GROUND LEVEL ROUTE

This route, as we understand it, calls for the closing of a main intersection at Hwy 43 and Ave 144. The traffic would then be routed north along the east boundary of the ranch for roughly a half a mile, then west through the middle of the ranch. It would cross Hwy 43, the railroad, and the HRS over a massive overpass at a point where our shop buildings, office, and a residence is currently located. This proposal would make it necessary for all these buildings to be relocated. A domestic well which supplies these buildings would also have to be relocated. The road running east to west through the middle would divide the ranch. This would make it necessary to move irrigation pipelines, access roads, and re-level fields. The road going north from Ave 144 would pass within 200 feet of a residence making it necessary to relocate underground phone and electrical service. A portion of a pomegranate field would have to be removed. The proximity of this road to the residence would certainly lower its value.

BO077-1

In conclusion, we are convinced that these HSR routes will have a severe negative impact on our farming operation, and way of life. The cost of making these changes to our property and the disruption they would create are unacceptable in our opinion.

Gregory G. Cooper

Timothy J. Cooper
COOPER FARMS, INC.--Land Owners/Operators

Response to Submission BO077 (Gregory & Timothy Cooper, Cooper Farms, Inc., October 11, 2011)

BO077-1

Refer to Standard Response FB-Response-GENERAL-10 and FB-Response-GENERAL-14.

Submission BO078 (Anita Standridge, Corcoran Chamber of Commerce, September 16, 2011)

Fresno - Bakersfield - RECORD #204 DETAIL

Status :	Action Pending
Record Date :	9/16/2011
Response Requested :	
Stakeholder Type :	CA Resident
Submission Date :	9/16/2011
Submission Method :	Website
First Name :	Anita
Last Name :	Standridge
Professional Title :	Board Member
Business/Organization :	Corcoran Chamber of Commerce
Address :	
Apt./Suite No. :	
City :	Corcoran
State :	CA
Zip Code :	93212
Telephone :	559-920-5048
Email :	astandridge@jgboswell.com
Email Subscription :	All Sections
Cell Phone :	
Add to Mailing List :	Yes
Stakeholder Comments/Issues :	I am opposed to the Highspeed Rail because of the detrimental effect it will have on our local communities, especially Corcoran. I am employeed for the past 18 years for J. G. Boswell Company and this project will have a detrimental effect on the company and my employment. Further, the EIR has not adequately addressed the noise levels, especially pertaining to the two California State Prison's in the Corcoran area and the population enclosed at the prison's. The other item I am opposed to is the scope of this project and the lack of ample time for review. None of the three routes are acceptable to me and as a board of director on the Corcoran Chamber of Commerce, I am opposed to the entire project.
EIR/EIS Comment :	Yes

BO078-1

Response to Submission BO078 (Anita Standridge, Corcoran Chamber of Commerce, September 16, 2011)

BO078-1

The prison will not be affected by noise and is beyond the distance of analysis.

Submission BO079 (Lisa Shaw, Corcoran Chamber of Commerce, October 13, 2011)

Fresno - Bakersfield - RECORD #679 DETAIL

Status :	Action Pending
Record Date :	10/13/2011
Response Requested :	
Stakeholder Type :	Business
Submission Date :	10/13/2011
Submission Method :	Website
First Name :	Lisa
Last Name :	Shaw
Professional Title :	Executive Director
Business/Organization :	Corcoran Chamber of Commerce
Address :	
Apt./Suite No. :	
City :	Corcoran
State :	CA
Zip Code :	93212
Telephone :	559-992-4514
Email :	lisa@corcoranchamber.com
Email Subscription :	All Sections
Cell Phone :	
Add to Mailing List :	Yes
Stakeholder Comments/Issues :	The Corcoran Chamber of Commerce strongly opposes the High Speed Rail Project through Corcoran and it's outlining areas. The proposed project could have potential devastating environmental impacts not only to the downtown businesses, but to our residents as well. Major concerns include noise, aesthetics, and the disruption of traffic patterns to the downtown businesses. Millions of dollars have just been spent on downtown projects and infrastructure, which could now be put in harm's way if the project is completed as proposed. Respectfully submitted, Lisa Shaw, Executive Director
EIR/EIS Comment :	Yes

BO079-1

Response to Submission BO079 (Lisa Shaw, Corcoran Chamber of Commerce, October 13, 2011)

BO079-1

Refer to Standard Response FB-Response-SO-03, FB-Response-GENERAL-05, FB-Response-GENERAL-14.

Submission BO080 (Tony & Ernestine Mattos, Dairy Farm, October 12, 2011)

17

CALIFORNIA High-Speed Rail Authority

10-12-11R02:07 RCVD

Comment Card
Tarjeta de Commentarios

Fresno to Bakersfield High-Speed Train Section
Draft Environmental Impact Report/ Environmental Impact Statement (EIR/EIS)
Public Hearings
September 2011
Please submit your completed comment card at the end of the meeting, or mail to:
Fresno to Bakersfield DEIR/EIS Comment, 770 L Street, Suite 800, Sacramento, CA 95814

La Sección de Fresno a Bakersfield del Tren de Alta Velocidad Proyecto de Informe de Impacto Ambiental/ Declaración de Impacto Ambiental (EIR/EIS)
Audiencias Públicas
Septiembre del 2011
Por favor entregue su tarjeta completada al final de la reunión, o enviela por correo a la siguiente dirección:

The comment period is from August 15 to September 28, 2011. Comments must be received electronically, or postmarked, on or before September 28, 2011.

El periodo de comentario es del 15 de Agosto al 28 de Septiembre del 2011. Los comentarios tienen que ser recibidos electrónicamente, o matasellados, el o antes del 28 de Septiembre del 2011.

Name/Nombre: Tony & Ernestine Mattos
Organization/Organización: Dairy Farm
Address/Domicilio: 8480 Kansas Avenue,
Phone Number/Número de Teléfono: (559) 685-0121
City, State, Zip Code/Ciudad, Estado, Código Postal: Hanford, CA 93230
E-mail Address/Correo Electrónico:
(Use additional pages if needed/Usar paginas adicionales si es necesario)

BO080-1 1) Pipelines: Are we going to have access for divided land, or have a separate well drilled?

BO080-2 2) Due to so much loss of land, How are we going to be able to operate and provide feed for the animals?

BO080-3 3) Are overpasses going to be wide enough, for equipment to cross and how will it be safe?

BO080-4 4) Value of Property: How much will be taken, value given and if unable to continue operation, will we be compensated for move, property and stress of it all?

BO080-5 5) How loud will it be and the vibration?

BO080-6 6) What about spraying crops?

Response to Submission BO080 (Tony & Ernestine Mattos, Dairy Farm, October 12, 2011)

BO080-1

In situations where the HST crosses existing irrigation pipelines, negotiations will be held with the property owner to determine how to mitigate these impacts. These may include providing routes for pipelines across the HST right-of-way, drilling new wells, or other negotiated mitigations.

BO080-2

Refer to Standard Response FB-Response-GENERAL-04, FB-Response-AG-02.

BO080-3

Refer to Standard Response FB-Response-S&S-01.

BO080-4

Refer to Standard Response FB-Response-AG-06, FB-Response-SO-01.

BO080-5

The potential noise impact has been assessed at sensitive receivers, and these areas are identified in Section 3.4.5, Environmental Consequences, of the Revised DEIR/Supplemental DEIS and shown in Figures 3.4-9 through 3.4-13. The locations of potential barriers are illustrated on Figures 3.4-15 through 3.4-19. Refer to Section 3.4.7 for a complete listing of noise impact mitigation measures that would reduce noise impacts below a "severe" level. The Proposed California High-Speed Train Project Noise and Vibration Mitigation Guidelines developed by the Authority (see Appendix 3.4-A of the Revised DEIR/Supplemental DEIS) were used to determine whether mitigation would be proposed for these areas of potential impact. The Guidelines require consideration of feasible and effective mitigation for severe noise impacts (impacts where a significant percentage of people would be highly annoyed by the HST project's noise).

The Authority will refine mitigation for homes with residual severe noise impacts (i.e., severe impacts that remain notwithstanding noise barriers) and address them on a case-by-case basis during final design of the Preferred Alternative. In addition to the potential use of noise barriers, other forms of noise mitigation may include improvements to the home itself that will reduce the levels by at least 5 A-weighted decibels (dBA), such as

BO080-5

adding acoustically treated windows, extra insulation, and mechanical ventilation, as detailed in Section 3.4.7, Project.

The Revised DEIR/Supplemental DEIS proposes noise barriers in areas of severe noise impacts resulting from the project, where the barriers meet the cost-effectiveness criteria. To meet the cost-effectiveness criteria, barriers must mitigate noise for more than 10 sensitive receivers, be not less than 800 feet in length, be less than 14 feet in height, and cost below $45,000 per benefited receiver. A receiver that receives at least a 5-dBA noise reduction due to the barrier is considered a benefited receiver.

Mitigation Measure N&V-MM#3 provides that sound barriers may be installed to reduce noise to acceptable levels at adjoining properties. These may include walls, berms, or a combination of walls and berms. The specific type of barrier will be selected during final design, and before operations begin. In addition, Mitigation Measure N&V-MM#3 provides that prior to operation, the Authority will work with communities regarding the height and design of sound barriers, using jointly developed performance criteria, when the vertical and horizontal location have been finalized as part of the final design of the project. Mitigation Measure VQ-MM#6 requires the provision of a range of options to reduce the visual impact of the sound barriers. The vibration impact assessment is primarily designed to identify the potential human annoyance from vibration from HST operations for buildings with vibration-sensitive use as described by the FRA and Federal Transit Administration land use categories. However, all buildings in close proximity to the proposed alignments were assessed for potential structural damage from HST operations and/or construction. The potential for damage from vibration from HST operations is limited to extremely fragile building locations within 30 feet of the tracks. The HST right-of-way width varies from 120 feet for at-grade tracks to approximately 60 feet for elevated fill to approximately 45 feet for elevated structures. In general, the area of impact is therefore within or close to the project right-of-way. Typical buildings, such as residences, located outside this distance would not have the potential for damage from vibration.

Agricultural resources, such as crops, would not be affected by noise and vibration from HSTs. As described in EIR/EIS Section 3.4.3, there are locations with potential vibration impacts in the project corridor because of the potential for annoyance effects from HST

Response to Submission BO080 (Tony & Ernestine Mattos, Dairy Farm, October 12, 2011) - Continued

BO080-5

operations. While the vibration at these locations might be felt by receivers, it would be well below the thresholds for damage to structures. It is helpful to note that the vibration levels generated by passing HSTs would generally be less than the levels generated by freight trains in the Study Area.

BO080-6

Refer to Standard Response FB-Response-AG-05.

See Volume I, Section 3.14, Impact AG#11 for information on the impacts on aerial pesticide spraying, dust, and pollination.

Submission BO081 (Dale Bender, Dale W Bender, CPA, September 25, 2011)

Fresno - Bakersfield - RECORD #273 DETAIL

Status :	Action Pending
Record Date :	9/25/2011
Response Requested :	
Stakeholder Type :	Business
Submission Date :	9/25/2011
Submission Method :	Website
First Name :	Dale
Last Name :	Bender
Professional Title :	Owner
Business/Organization :	Dale W Bender, CPA
Address :	
Apt./Suite No. :	
City :	Bakersfield
State :	CA
Zip Code :	93309
Telephone :	661-325-5711
Email :	joanne@dalewbendercpa.com
Email Subscription :	Fresno - Bakersfield
Cell Phone :	
Add to Mailing List :	Yes
Stakeholder Comments/Issues :	Gentlemen: I would like to provide my comments regarding the Fresno to Bakersfield portion of the California High Speed Rail project. BO081-1 There are two proposed routes currently running through downtown Bakersfield from Calloway Drive to Oswell Drive (one route is south of the BNSF railroad tracks at Easton Drive/Oak Street and one is north of the BNSF railroad tracks at Easton Drive/Oak Street). The route that runs south of the BNSF railroad tracks would impact our business since it would limit/remove access to one of the Easton Business Complex Association buildings. Of more concern, however is BO081-2 the possibility that the southern route could impact the current Cal Trans Centennial Corridor Alternative C route which is the proposed route that would connect Hwy 58 to the Westside Parkway/Freeway. Alternative C will run down Hwy 99 and then continue west down Easton Drive and eventually connect to the Westside Parkway with the hope of connecting to I-5 in the future. If the California High Speed Rail project would select the northern route instead of the southern route it is most likely Alternative C could be selected instead of the other proposed routes. In closing, my support for this project would be forthcoming if the northern route is selected. If the southern route is selected and if it impacts the proposed Cal Trans Alternative C freeway route so it can not be built I would withdraw my support of the high speed rail project. Sincerely, Dale W Bender, CPA Joanne M Bender
EIR/EIS Comment :	Yes

Response to Submission BO081 (Dale Bender, Dale W Bender, CPA, September 25, 2011)

BO081-1

Refer to Standard Response FB-Response-SO-01, FB-Response-SO-03.

BO081-2

The HST will not preclude any jurisdiction or entity from implementing future transportation projects. The Authority will work with local jurisdictions to identify future transportation projects that could be affected by the implementation of the HST project.

Submission BO082 (David W. Zandt, Dave's Upholstery, October 12, 2011)

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Name/Nombre: DAVID W ZANDT (DAVE'S UPHOLSTERY)
Organization/Organización:
Address/Domicilio: 8552 CAIRO AVE.
Phone Number/Número de Teléfono: 559 - 584-1677
City, State, Zip Code/Ciudad, Estado, Código Postal: LATON CA. 93242
E-mail Address/Correo Electrónico: ZNZ0001@HOTMAIL.COM
(Use additional pages if needed/Usar páginas adicionales si es necesario)

BO082-1

I HAVE 2 ACRES OF LAND. THE RIGHT OF WAY TAKES OFF ABOUT ½ OF MY PROPERTY ALONG WITH MY UPHOLSTERY SHOP. I THINK I HAVE ROOM TO REBUILD MY SHOP IF I MOVE IT BACK. IT SEEMS THAT THE OVERPASS WILL CUT OFF ANY ACCESS TO CAIRO AVE. MY CONCERNS ARE THAT THE CONSTRUCTION OF THIS OVERPASS WILL DISRUPT MY ABILITY TO KEEP MY UPHOLSTERY SHOP OPEN. IF I HAVE TO CLOSE MY SHOP, I WILL HAVE NO INCOME TO PAY MY BILLS. WILL THE COUNTY GIVE ME A PERMIT TO REBUILD MY SHOP? WILL MY CUSTOMERS HAVE ACCESS TO MY SHOP WITH THE OVERPASS IN THE WAY? I MAY LOSE SOME CUSTOMERS WITH A LONG DISRUPTIONS DURING CONSTRUCTION OF THIS OVERPASS. NOT ONLY WILL I LOSE SOME OF MY PROPERTY, I MAY LOSE MY UPHOLSTERY SHOP. I'VE HAD MY SHOP FOR OVER 25 YEARS AND I AM GETTING A LITTLE TO OLD TO TRY AND START OVER AGAIN SOMEWHERE ELSE. I HOPE YOU CAN GIVE ME SOME ANSWERS ABOUT MY CONCERNS AND QUESTIONS.

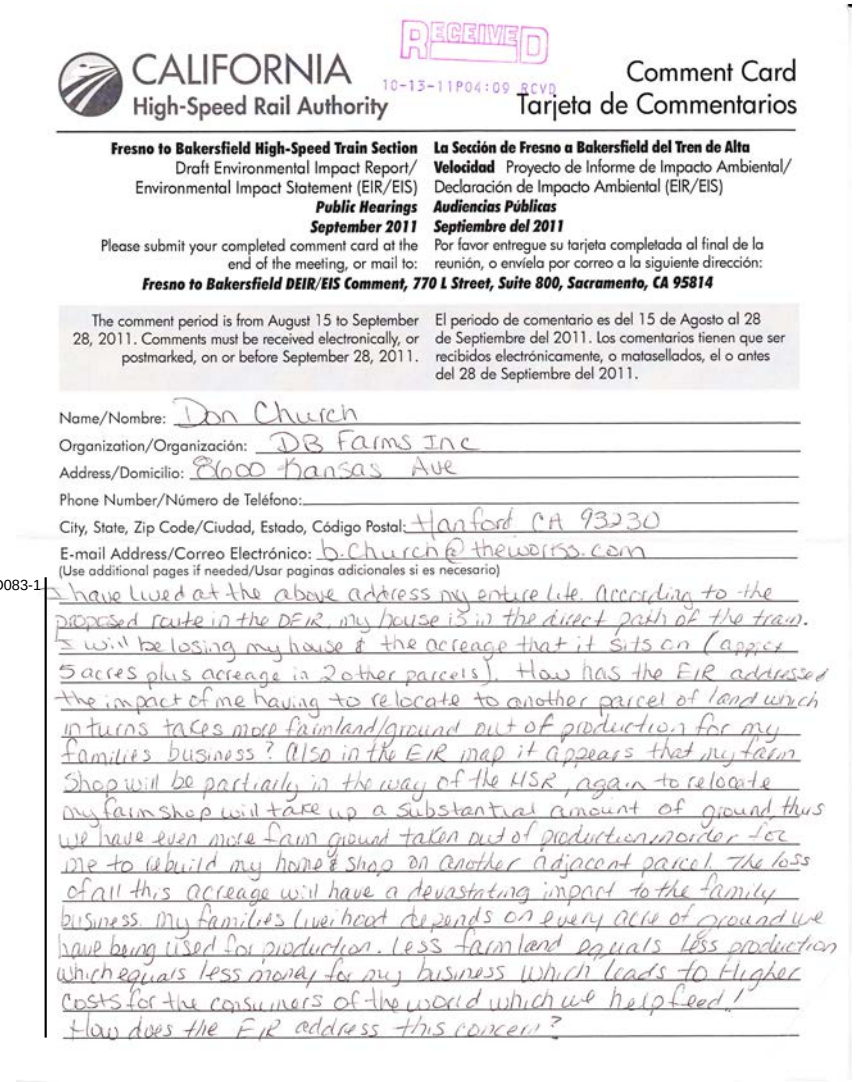
Response to Submission BO082 (David W. Zandt, Dave's Upholstery, October 12, 2011)

BO082-1

Refer to Standard Response FB-Response-SO-03.

Businesses that would be relocated by the project would be entitled to relocation assistance and counseling similar to that provided to residents in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act, as amended, to ensure adequate relocation of businesses. Relocation assistance includes assistance in finding replacement properties, moving expenses, and obtaining permits.

Submission BO083 (Don Church, DB Farms, Inc, October 13, 2011)



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Name/Nombre: Don Church
Organization/Organización: DB Farms Inc
Address/Domicilio: 8000 Kansas Ave
Phone Number/Número de Teléfono:
City, State, Zip Code/Ciudad, Estado, Código Postal: Hanford CA 93230
E-mail Address/Correo Electrónico: b.church@theworks.com
(Use additional pages if needed/Usar paginas adicionales si es necesario)

BO083-1 I have lived at the above address my entire life. According to the proposed route in the DEIR, my house is in the direct path of the train. I will be losing my house & the acreage that it sits on (approx 5 acres plus acreage in 2 other parcels). How has the EIR addressed the impact of me having to relocate to another parcel of land which in turns takes more farmland/ground out of production for my families business? Also in the EIR map it appears that my farm shop will be partially in the way of the HSR, again to relocate my farmshop will take up a substantial amount of ground thus we have even more farm ground taken out of production in order for me to rebuild my home & shop on another adjacent parcel. The loss of all this acreage will have a devastating impact to the family business. My families livelihood depends on every acre of ground we have being used for production. Less farmland equals less production which equals less money for my business which leads to higher costs for the consumers of the world which we help feed! How does the EIR address this concern?

Response to Submission BO083 (Don Church, DB Farms, Inc, October 13, 2011)

BO083-1

Refer to Standard Response FB-Response-SO-01, FB-Response-AG-02.

Submission BO084 (Donna Marshall, DB Farms, Inc., October 6, 2011)

Fresno - Bakersfield - RECORD #446 DETAIL

Status :	Action Pending
Record Date :	10/6/2011
Response Requested :	
Stakeholder Type :	Business
Submission Date :	10/6/2011
Submission Method :	Website
First Name :	Donna
Last Name :	Marshall
Professional Title :	
Business/Organization :	DB FARMS
Address :	
Apt./Suite No. :	
City :	Hanford
State :	CA
Zip Code :	93230
Telephone :	
Email :	arbuckle_2002@yahoo.com
Email Subscription :	
Cell Phone :	
Add to Mailing List :	No
Stakeholder Comments/Issues :	The EIR is vague in their safety concerns draft about many things. As a farmer in Kings County I don't feel you have addressed the issue of safety on the overpasses you are creating. EIR states that overpasses will be built every few miles. Farmers and dairymen in this area have huge pieces of equipment that need to be moved daily, weekly and monthly. We are still going to have to travel public roads to get our equipment to the places they need to go to harvest. Silage trucks, module trucks, dozers, swathers, combines, pickers, tomato harvestors and tractors will all be crossing these overpasses. Have you taken this into consideration? These pieces of equipment move slower than traffic and generally take up huge portions of the road. On flat ground we are able to move our equipment to the side of the ride to let traffic pass by around us. How are we to do this every few miles while crossing overpasses? Is it just me or do you not see the danger of going up a huge overpass with a large piece of equipment? How is this safe for the farmer, equipment or persons in the other vehicles? Now, bring in the notorious fog that Kings County is known for! All I forsee is lots of accidents.
EIR/EIS Comment :	Yes

BO084-1

Response to Submission BO084 (Donna Marshall, DB Farms, Inc., October 6, 2011)

BO084-1

Refer to Standard Response FB-Response-S&S-01.

Submission BO085 (Brenda Church, DB Farms, Inc., October 6, 2011)

Fresno - Bakersfield - RECORD #449 DETAIL

Status :	Action Pending
Record Date :	10/6/2011
Response Requested :	Yes
Stakeholder Type :	Business
Submission Date :	10/6/2011
Submission Method :	Website
First Name :	Brenda
Last Name :	Church
Professional Title :	
Business/Organization :	DB Farms
Address :	8600 Kansas Ave
Apt./Suite No. :	
City :	Hanford
State :	CA
Zip Code :	93230
Telephone :	
Email :	b.church@theworks.com
Email Subscription :	
Cell Phone :	
Add to Mailing List :	No

BO085-1

Stakeholder Comments/Issues :	I have lived at 8600 Kansas Ave., Hanford, Ca (Kings County) for 40 years. The HSR, on current proposed path, will eliminate my house. I am greatly concerned with the cost of having to rebuild another home. My husband and I have finally paid our mortgage, which took many years to do. If we are only looking at fair market value then we will not be able to build another house identical to ours. we have checked with home builders - prices per sq. foot range from $170-$220 - if we are only paid fair market value then we will have to downgrade to a lesser quality home as fair market value will not be enough to replace our existing home. If we do replace our home identically then we will have to secure a loan to do this thus we have to be saddled with mortgage payments all over again. My home alone, not including yards and pool facility areas, to rebuild at the above costs is at 2 million. Does the EIR include a feasible solution for compensating us for the impact of loss of our home? Feasible is NOT fair market value.
EIR/EIS Comment :	Yes

Response to Submission BO085 (Brenda Church, DB Farms, Inc., October 6, 2011)

BO085-1

Refer to Standard Response FB-Response-SO-01.

Alignment plans and maps of parcels directly affected by the project where the whole parcel or a portion thereof would be acquired by the project are provided in Volume 3 of the EIR/EIS.

Submission BO086 (Donna Marshall, DB Farms, Inc., October 10, 2011)

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Name/Nombre: Donna Marshall
Organization/Organización: DB Farms
Address/Domicilio: 7530 Jersey Ave
Phone Number/Número de Teléfono:
City, State, Zip Code/Ciudad, Estado, Código Postal: Hanford CA 93230
E-mail Address/Correo Electrónico: drbuckle_2002@yahoo.com
(Use additional pages if needed/Usar paginas adicionales si es necesario)

BO086-1 The EIR is vague in their references to safety concerns. As a farmer in Kings County I don't feel you have addressed the issue of safety on all the overpasses you will be creating. EIR states that overpasses will be built every few miles. Farmers and dairymen in this area have huge pieces of equipment that need to be moved daily, weekly & monthly. We are still going to have to travel public roads to get our equipment to the places they need to go to harvest. Silage trucks, module trucks, dozers, Sunthers, combines pickers, tomato harvesters & tractors will all be crossing these overpasses. Have ya'll taken this into consideration? These pieces of equipment move slower than regular traffic and take up huge portions of the road. On flat ground we are able to move over to shoulder of road & let traffic pass around us. How are we to do this every few miles while crossing overpasses? Is it just me or do you not see the danger of going up a huge overpass w/ large pieces of equipment? How is this safe for the farmer, equipment and/or persons in the other vehicles? Now, bring in the notorious fog that Kings County is known for! All I see is accidents waiting to happen.

Response to Submission BO086 (Donna Marshall, DB Farms, Inc., October 10, 2011)

BO086-1

Refer to Standard Response FB-Response-S&S-01.

Submission BO087 (Donna Marshall, DB Farms, Inc., October 10, 2011)

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Name/Nombre: Donna Marshall
Organization/Organización: DB Farms
Address/Domicilio: 7530 Jersey Ave, Hanford, CA 93230
Phone Number/Número de Teléfono:
City, State, Zip Code/Ciudad, Estado, Código Postal: Hanford, CA 93230
E-mail Address/Correo Electrónico: Rbuckle_2002@yahoo.com
(Use additional pages if needed/Usar paginas adicionales si es necesario)

BO087-1 The EIR states that the train will travel forward at 220mph. Does this train have reverse? Will it be able to travel in reverse at 220 mph in case it needs to for safety purposes?

Response to Submission BO087 (Donna Marshall, DB Farms, Inc., October 10, 2011)

BO087-1

The HST would be capable of reaching speeds of 220 miles per hour in both north and southbound directions.

Submission BO088 (Donna Marshall, DB Farms, Inc., October 12, 2011)

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Name/Nombre: Donna Marshall
Organization/Organización: DB Farms
Address/Domicilio: 7530 Jersey Ave
Phone Number/Número de Teléfono:
City, State, Zip Code/Ciudad, Estado, Código Postal: Harford CA 93230
E-mail Address/Correo Electrónico: Arbuckle_2005@yahoo.com
(Use additional pages if needed/Usar paginas adicionales si es necesario)

As a farmer & commerical harvester & have a few concerns regarding the DEIR. I do commerical hay cutting, baling & cotton module hauling for area farmers. The proposed EIR shows many roads blocked w/ new overpasses & access roads. With this in mind has the EIR taken into consideration and/or addressed how many extra miles that it will now take for a farmers commodity to reach its destination?

BO088-1

There will be many miles added to my machines & module trucks (routes) during the trip it takes to the field(s) & cotton gin(s) thus adding more cost to the grower. Has the EIR addressed how much extra added time my trucks & machines will now have on the road because of the longer routes? more time on the roads for these trucks & machines leads to more diesel emissions & dust in the air. CA farmers are already under strict scrutiny for producing too much diesel emissions & dust. So how are the current road blocks/routes of the HSR helping the current air guidelines we are facing

BO088-2

BO088-3

Response to Submission BO088 (Donna Marshall, DB Farms, Inc., October 12, 2011)

BO088-1

Refer to Standard Response FB-Response-GENERAL-04, FB-Response-AG-01.

See the Revised DEIR/Supplemental DEIS, Volume I, Section 3.12, Impact SO #16, for effects to agriculture and resulting changes in regional access from project road closures.

BO088-2

Refer to Standard Response FB-Response-AG-02.

BO088-3

Refer to Standard Response FB-Response-AQ-03.

As evaluated in the Revised DEIR/Supplemental DEIS, the HST would reduce the vehicle miles traveled for regional traffic. The fugitive-dust emissions caused by the HST trips would be offset by the reduction in regional emissions from the reduced vehicle miles traveled and from the required actions under the Voluntary Emissions Reduction Agreement between the Authority and the San Joaquin Valley Air Pollution Control District.

Submission BO089 (Donna Marshall, DB Farms, Inc., October 12, 2011)

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Organization/Organización: DB Farms
Address/Domicilio: 7530 Jersey Ave
Phone Number/Número de Teléfono:
City, State, Zip Code/Ciudad, Estado, Código Postal: Hanford CA 93230
E-mail Address/Correo Electrónico: dbuckle_2002@yahoo.com
(Use additional pages if needed/Usar paginas adicionales si es necesario)

BO089-1 CA farmers are currently under tight regulations regarding air pollution, dust & diesel emissions. With so many roads blocked, as proposed in your DEIR, with few access roads available, all farmers will now have to travel longer & further to get to our destinations. This creates more dust & diesel emissions. My module hauling

BO089-2 trucks (as of 1-10) are required to have their mileage checked & submitted at the end of season. The Air Resource Board is cracking down on equipment w/ older engines. Agricultural vehicles have to comply & will have to replace their diesel engines by 2017 or 2023 depending on use of ag. vehicle. I cannot put more than 10,000 miles on my trucks during a season or else I am fined. The EIR doesn't address this issue. With my trucks having to travel so many more miles all of the way I will easily put 10,000 miles a season on each truck. This now I am forced to replace my diesel engines sooner than expected. How is the helping the farmer who feeds you? Has the HSR coordinated w/ the Air Resource

BO089-3 Board in regards to these issues?

Response to Submission BO089 (Donna Marshall, DB Farms, Inc., October 12, 2011)

BO089-1

Refer to Standard Response FB-Response-AQ-03.

On average, roadway overpasses would be provided approximately every 2 miles along the track. It is estimated that the proposed project would result in no more than 1 mile of out-of-direction travel for vehicles to cross the HST tracks. The width of the roadway overpasses would accommodate both farm equipment and school buses traveling in opposite lanes. Because of the frequency of roadway overpasses, additional distances traveled by vehicles to cross the HST tracks are expected to be negligible relative to regional vehicle miles traveled (VMT) reductions and therefore would not cause additional air quality impacts. (For more details on roadway overcrossings, see Sections 2.2.4 and 2.2.5 of the Revised DEIR/Supplemental DEIS.)

As evaluated in the Revised DEIR/Supplemental DEIS, the HST would reduce the VMT for regional traffic. The fugitive-dust emissions caused by the HST trips would be offset by the reduction in regional emissions from the reduced VMT and from the required actions under the Voluntary Emissions Reduction Agreement between the Authority and the San Joaquin Valley Air Pollution Control District.

BO089-2

Refer to Standard Response FB-Response-AQ-03.

As evaluated in the Revised DEIR/Supplemental DEIS, the HST would reduce the vehicle miles traveled (VMT) for regional traffic. The fugitive-dust emissions caused by the HST trips would be offset by the reduction in regional emissions from the reduced VMT and from the required actions under the Voluntary Emissions Reduction Agreement between the Authority and the San Joaquin Valley Air Pollution Control District.

BO089-3

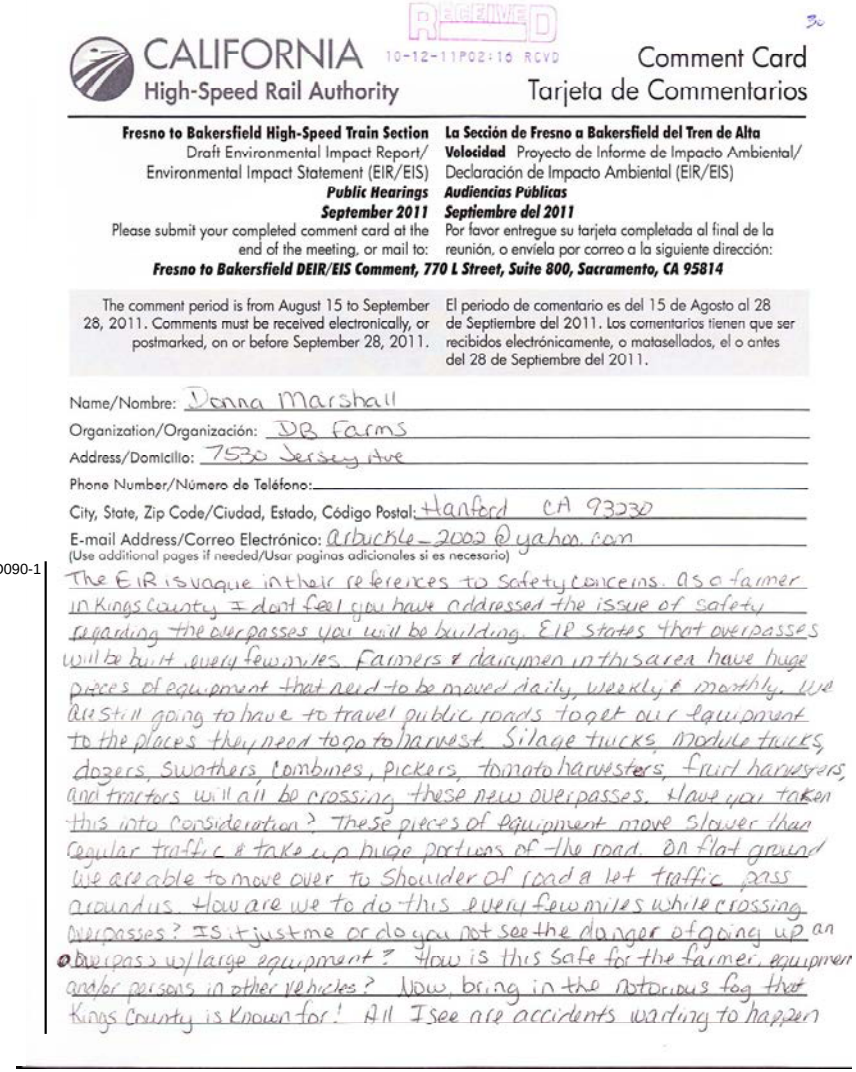
Refer to Standard Response FB-Response-GENERAL-08.

The Authority and FRA consulted with cooperating agencies under NEPA and with trustee and responsible agencies under CEQA regarding specific resource areas associated with these agencies. Interested state, federal, and local agencies were also

BO089-3

consulted throughout the process. A full listing of meetings, including consultation with the Air Resources Board, can be found in Ch. 7 of the Revised DEIR/Supplemental DEIS.

Submission BO090 (Donna Marshall, DB Farms, Inc., October 12, 2011)



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Organization/Organización: DB Farms
Address/Domicilio: 7530 Jersey Ave
Phone Number/Número de Teléfono:
City, State, Zip Code/Ciudad, Estado, Código Postal: Hanford CA 93230
E-mail Address/Correo Electrónico: arbuckle_2002@yahoo.com
(Use additional pages if needed/Usar paginas adicionales si es necesario)

BO090-1 The EIR is vague in their refereices to safety concerns. As a farmer in Kings County I dont feel you have addressed the issue of safety regarding the overpasses you will be building. EIR states that overpasses will be built every few miles. Farmers & dairymen in this area have huge pieces of equipment that need to be moved daily, weekly & monthly. We all still going to have to travel public roads toget our equipment to the places they need to go to harvest. Silage trucks, Module trucks, dozers, Swathers, Combines, pickers, tomato harvesters, fruit harvesters, and tractors will all be crossing these new overpasses. Have you taken this into consideration? These pieces of equipment move slower than regular traffic & take up huge portions of the road. On flat ground we are able to move over to shoulder of road a let traffic pass around us. How are we to do this every few miles while crossing overpasses? Is it just me or do you not see the danger of going up an overpass w/large equipment? How is this safe for the farmer, equipment and/or persons in other vehicles? Now, bring in the notorious fog that Kings County is known for! All I see are accidents waiting to happen

Response to Submission BO090 (Donna Marshall, DB Farms, Inc., October 12, 2011)

BO090-1

Refer to Standard Response FB-Response-S&S-01.

Submission BO091 (Clinton Church, DB Farms, Inc., October 13, 2011)

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Name/Nombre: Clinton Church
Organization/Organización: DB Farms
Address/Domicilio: 8624 Kansas Ave
Phone Number/Número de Teléfono: 559 582-2984
City, State, Zip Code/Ciudad, Estado, Código Postal: Hanford CA 93230
E-mail Address/Correo Electrónico: caleb25@theworks.com
(Use additional pages if needed/Usar paginas adicionales si es necesario)

BO091-1 In looking at the proposed route of the HSR in the current EIR, I am uncertain as to whether or not my house and ground well will be affected by the train route? It looks like it very well could be and I have not been contacted by anyone in your organization to let me know how my planning for future should proceed? There has been no communication! How does one plan for this? Am I going

BO091-2 to have to find a new residence for my family? If the rail doesn't hit my house how many feet are we looking at between my house & the rail? What is the vibration of this rail going to do to my residence? Continual vibration will surely have some effects on the structure of my house both inside and outside

BO091-3 will there be damage to my house well? What about aesthetics? Is my family going to step outside and have to have this train as our yard ornament?
How does the EIR address the above concerns for my 8624 Kansas Ave. address?

Response to Submission BO091 (Clinton Church, DB Farms, Inc., October 13, 2011)

BO091-1

Refer to Standard Response FB-Response-SO-01.

Alignment plans and maps of parcels directly affected by the project, where the whole parcel or a portion thereof would be acquired, are provided in Volume III of the EIR/EIS.

BO091-2

Refer to Standard Response FB-Response-SO-01.

Your home is located within 50 feet of the BNSF Alternative along the east side of the city of Hanford. At this distance the residence would be severely impacted by both noise and vibration. The vibration level due to project operations would exceed 77 vibration decibels (VdB), which would substantially exceed the residential vibration threshold criteria of 72 VdB for frequent events. This level would probably result in a high level of annoyance to the homeowner, but probably would not result in any damage to the structures on the property. The Authority will consider vibration mitigation whenever the criterion is exceeded as determined by a detailed analysis, which will be done when the final alignment is chosen. If vibration mitigation is found to be feasible and reasonable, the mitigation will be included as part of the HST project. The guidelines for feasible and reasonable vibration mitigation can be found in the Proposed California High-Speed Train Project Noise and Vibration Mitigation Guidelines developed by the Authority (see Appendix 3.4-A of the Revised DEIR/Supplemental DEIS).

BO091-3

Refer to Standard Response FB-Response-AVR-03.

See also Mitigation Measure AVR-MM#2e, Provide Offsite Landscape Screening Where Appropriate, in Section 3.16, Aesthetics and Visual Resources, of the Revised DEIR/Supplemental DEIS.

Submission BO092 (Brenda Church, DB Farms, Inc., October 13, 2011)

RECEIVED
10-13-11P04:08 RCVD

CALIFORNIA High-Speed Rail Authority

Comment Card
Tarjeta de Commentarios

Fresno to Bakersfield High-Speed Train Section
Draft Environmental Impact Report/ Environmental Impact Statement (EIR/EIS)
Public Hearings
September 2011
Please submit your completed comment card at the end of the meeting, or mail to:
Fresno to Bakersfield DEIR/EIS Comment, 770 L Street, Suite 800, Sacramento, CA 95814

La Sección de Fresno a Bakersfield del Tren de Alta Velocidad Proyecto de Informe de Impacto Ambiental/ Declaración de Impacto Ambiental (EIR/EIS)
Audiencias Públicas
Septiembre del 2011
Por favor entregue su tarjeta completada al final de la reunión, o envíela por correo a la siguiente dirección:

The comment period is from August 15 to September 28, 2011. Comments must be received electronically, or postmarked, on or before September 28, 2011.

El periodo de comentario es del 15 de Agosto al 28 de Septiembre del 2011. Los comentarios tienen que ser recibidos electrónicamente, o matasellados, el o antes del 28 de Septiembre del 2011.

Name/Nombre: Brenda Church
Organization/Organización: DB Farms
Address/Domicilio: 8000 Kansas Ave
Phone Number/Número de Teléfono:
City, State, Zip Code/Ciudad, Estado, Código Postal: Hanford, CA 93230
E-mail Address/Correo Electrónico: bchurch@theworks.com
(Use additional pages if needed/Usar paginas adicionales si es necesario)

BO092-1 I have lived at the above residence for 40 years. The HSR, on current proposed path, will eliminate my house. I am greatly concerned w/ the cost of having to rebuild another home. My husband & I have finally paid our mortgage, which took many years to do. If we are only looking at Fair Market Value then we will not be able to build another house identical to ours. We have checked w/ home builders - prices per sq. foot range from $170 to $220 - if we are only paid fair market value then we will have to downgrade to a lesser quality house as fair market value will not be enough to replace our existing home. If we do replace our home identically then we will have to secure a loan to do this thus we have to be saddled w/ mortgage payments all over again. My home alone, not including yards & pool facility areas, is valued at 2 million. Does the EIR include a feasible solution for compensating us for the impact of loss of our home? Feasible is not fair market value.

Response to Submission BO092 (Brenda Church, DB Farms, Inc., October 13, 2011)

BO092-1

Refer to Standard Response FB-Response-SO-01.

Alignment plans and maps of parcels directly affected by the project, where the whole parcel or a portion thereof would be acquired, are provided in Volume III of the EIR/EIS.

Submission BO093 (Donna Marshall, DB Farms, Inc., October 13, 2011)

CALIFORNIA High-Speed Rail Authority

RECEIVED
10-13-11P04:08 RCVD

Comment Card
Tarjeta de Commentarios

Fresno to Bakersfield High-Speed Train Section
Draft Environmental Impact Report/ Environmental Impact Statement (EIR/EIS)
Public Hearings
September 2011
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La Sección de Fresno a Bakersfield del Tren de Alta Velocidad Proyecto de Informe de Impacto Ambiental/ Declaración de Impacto Ambiental (EIR/EIS)
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El periodo de comentario es del 15 de Agosto al 28 de Septiembre del 2011. Los comentarios tienen que ser recibidos electrónicamente, o matasellados, el o antes del 28 de Septiembre del 2011.

Name/Nombre: Donna Marshall
Organization/Organización: DB Farms
Address/Domicilio: 7530 Jersey Ave
Phone Number/Número de Teléfono:
City, State, Zip Code/Ciudad, Estado, Código Postal: Hanford CA 93230
E-mail Address/Correo Electrónico: arbuckle_2002@yahoo.com
(Use additional pages if needed/Usar paginas adicionales si es necesario)

As a farmer & commercial harvester I have a few concerns regarding your EIR. I do commercial hay cutting, baling along w/ cotton module hauling for area farmers. With many of the roads blocked w/ few overpasses available, has the EIR taken into consideration and/or addressed how many extra miles that it will now take for a farmer's commodity to reach its destination? There will be many miles added to my machines & the module trucks (trailers) during the trip it takes to the field(s) & cotton gin(s) thus adding more cost to the grower. BO093-1

Has the EIR addressed how much extra added time my module trucks & harvesting machines will now have on the road because of the longer routes? More time on the roads for these trucks & machines leads to more diesel emissions & dust in the air. California farmers are already under strict scrutiny for producing too much diesel emissions & dust. So how are the current road blocks/routes of the HSR helping the current air guidelines we already face? BO093-2

Response to Submission BO093 (Donna Marshall, DB Farms, Inc., October 13, 2011)

BO093-1

Refer to Standard Response FB-Response-AG-02.

See also Volume I, Section 3.14, Impact AG#5 for more information on effects on agricultural land from parcel severance.

BO093-2

Refer to Standard Response FB-Response-AQ-03.

As evaluated in the Revised DEIR/Supplemental DEIS, the HST would reduce the vehicle miles traveled for regional traffic, thereby helping to improve long-term air quality in the San Joaquin Valley Air Basin.

Submission BO094 (Tammy Church, DB Farms,Inc., October 12, 2011)

CALIFORNIA High-Speed Rail Authority

10-12-11P02:15 RCVD

Comment Card
Tarjeta de Commentarios

Fresno to Bakersfield High-Speed Train Section
Draft Environmental Impact Report/ Environmental Impact Statement (EIR/EIS)
Public Hearings
September 2011
Please submit your completed comment card at the end of the meeting, or mail to:
Fresno to Bakersfield DEIR/EIS Comment, 770 L Street, Suite 800, Sacramento, CA 95814

La Sección de Fresno a Bakersfield del Tren de Alta Velocidad Proyecto de Informe de Impacto Ambiental/ Declaración de Impacto Ambiental (EIR/EIS)
Audiencias Públicas
Septiembre del 2011
Por favor entregue su tarjeta completada al final de la reunión, o envíela por correo a la siguiente dirección:

The comment period is from August 15 to September 28, 2011. Comments must be received electronically, or postmarked, on or before September 28, 2011.

El periodo de comentario es del 15 de Agosto al 28 de Septiembre del 2011. Los comentarios tienen que ser recibidos electrónicamente, o matasellados, el o antes del 28 de Septiembre del 2011.

Name/Nombre: Tammy Church
Organization/Organización: DB Farms
Address/Domicilio: 8624 Kansas Ave
Phone Number/Número de Teléfono:
City, State, Zip Code/Ciudad, Estado, Código Postal: Hanford CA 93230
E-mail Address/Correo Electrónico: tbuckle_2002@yahoo.com
(Use additional pages if needed/Usar paginas adicionales si es necesario)

BO094-1 How is my address & 8624 Kansas Ave. Hanford CA 93230 addressed in your EIR? There has been no communication to us by you regarding whether or not there has been a proper noise study/evaluation done on this property. Where is the proof of a proper study done for my address in the EIR? What are impacts of the vibration & noise to our home and our farm animals? Where is the study showing that farm animals will not be affected by such noise & vibration?

Response to Submission BO094 (Tammy Church, DB Farms,Inc., October 12, 2011)

BO094-1

Refer to Standard Response FB-Response-N&V-01, FB-Response-N&V-04, FB-Response-N&V-05, FB-Response-SO-01, FB-Response-AG-06.

Your home is located within 50 feet of the BNSF Alternative along the east side of the city of Hanford. At this distance the residence would be severely impacted by both noise and vibration. The projected noise level at this location would be in excess of 76 decibel (dB) day-night average sound level (Ldn), which would represent an increase in noise level of at least 20 dB over the existing ambient level. The projected vibration level due to project operations would exceed 77 vibration decibels (VdB), which would substantially exceed the residential vibration threshold criteria of 72 VdB for frequent events. This level would probably result in a high level of annoyance in the homeowner, but probably would not result in any damage to the structures on the property. The Authority will consider vibration mitigation whenever the criterion is exceeded, as determined by a detailed analysis, which will be done when the final alignment is chosen. If vibration mitigation is found to be feasible and reasonable, the mitigation will be included as part of the HST project. The guidelines for feasible and reasonable vibration mitigation can be found in the Proposed California High-Speed Train Project Noise and Vibration Mitigation Guidelines developed by the Authority (see Appendix 3.4-A of the Revised DEIR/Supplemental DEIS).

Based on existing research, the FRA has established a threshold for HST noise effects on livestock of 100 A-weighted decibel (dBA) sound exposure level (SEL) (FRA 2005a). As discussed in Section 3.4, Noise and Vibration, the term SEL, or the sound exposure level, represents the noise generated during a single event, such as the train passing a given point. At a distance of 100 feet, the SEL for project operations at all dairies along the alignment in Kings County would be less than 100 dBA SEL. Facilities on operations not located at least 100 feet from the project would experience moderate noise and vibration effects. (See Appendix B of Section 3.14, Agricultural Lands, for details on these effects on animal operations.)

A study by Amstutz and Miller (1980) appears to be the most appropriate reference for the effects of stray currents and electromagnetic fields on livestock (Authority and FRA 2012k). That study of 11 livestock farms concluded that livestock health, behavior, and performance were not affected by electrical and magnetic fields created by a very large

BO094-1

(765 kilovolt [kV]) overhead transmission line. The HST System would operate on a much smaller 2x25 kV overhead contact system. Therefore, the Authority and FRA have determined that this is a negligible impact under NEPA and a less-than-significant impact under CEQA.

Submission BO095 (Curtis Skaggs, Dee Jaspar & Associates, Inc., September 14, 2011)

Fresno - Bakersfield - RECORD #201 DETAIL

Status :	Action Pending
Record Date :	9/14/2011
Response Requested :	
Stakeholder Type :	Business
Submission Date :	9/14/2011
Submission Method :	Website
First Name :	Curtis
Last Name :	Skaggs
Professional Title :	Company Engineer
Business/Organization :	Dee Jaspar & Associates, Inc.
Address :	
Apt./Suite No. :	
City :	Bakersfield
State :	CA
Zip Code :	93308
Telephone :	(661) 393-4796
Email :	cskaggs@djacivil.com
Email Subscription :	Fresno - Bakersfield
Cell Phone :	
Add to Mailing List :	Yes
BO095-1 **Stakeholder Comments/Issues :**	In reviewing the HST footprint document Volume II: Appendix 3.1-A dated August 2011, on Sheet 222 the permanent impact footprint is shown to go directly over the top of Parcel 110-182-12. This parcel is a water supply well, Ozone Treatment Facility, storage tank, and booster pumping plant for Vaughn Water Company. This is a critical well for their water system and critical equipment in it such as VFD's and an Ozone Generator. How does this permanent impact relate to this particular water well site?
EIR/EIS Comment :	Yes

Response to Submission BO095 (Curtis Skaggs, Dee Jaspar & Associates, Inc., September 14, 2011)

BO095-1

Refer to Standard Response FB-Response-PU&E-03.

The Authority met with Vaughn Water Company on October 4, 2012, to discuss the facilities at Parcel 110-182-12 and other conflicts between the HST and Vaughn Water Company. The Authority is currently in the process of putting together an agreement with Vaughn Water Company that will allow the two entities to work together to resolve such conflicts.

Submission BO096 (Kim Delfino, Defenders of Wildlife, August 23, 2011)

California Office
1303 J Street, Suite 270 | Sacramento, CA 95814 | tel 916.313.5800 | fax 916.313.5812
www.defenders.org

August 23, 2011

Tom Umberg, Chair
Board of Directors
California High-Speed Rail Authority
770 L Street, Suite 800
Sacramento, CA 95814

RE: Request for Extension of EIR/EIS Comment Period – Fresno to Bakersfield Section

Dear Mr. Umberg and Board Members:

On behalf of Defenders of Wildlife and our more than 100,000 members and supporters in California, I am writing to request that the Board of Directors of the California High-Speed Rail Authority (Authority) extend the comment period on the Draft Environmental Impact Report (EIR) and the Draft Environmental Impact Statement (EIS) for the Fresno to Bakersfield section of the proposed California high speed train project. We request that the Authority extend the public comment period for this document from forty-five (45) days to ninety (90) days, or until November 10, 2011.

The purpose of the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) is to ensure that when government is making decisions that might affect the environment, those decisions are made only after the decision makers are fully informed of the potential environmental impacts of their proposed actions. Therefore, it is essential that there is an adequate opportunity for public review, participation and comment on the draft environmental documents supporting those decisions.

CEQA Guidelines state that 45 days is the **minimum** period of time for public review and comment on a draft EIR that has been submitted to the State Clearinghouse. Public Resources Code §21091(b); CEQA Guidelines §15105 (d). Further, the CEQA Guidelines also state that the public review period for draft EIRs could be for longer than 60 days if there is an unusual situation. CEQA Guidelines §15105 (a).

Here, the Authority has **limited the public comment period to the minimum** number of days for review when it provided a 45-day public review period for the voluminous Draft EIR/EIS for the highly debated Fresno to Bakersfield section of the proposed high-speed train. Instead, the Authority should provide 90 days for public review and comment due to the unusual situation posed by this complicated, controversial, and difficult proposed project. For example, the physical work contemplated in this section of the proposed high-speed train project will occur in a geographic area that is approximately 113 miles in length. Moreover, the proposed project is the first stage of what would be the largest public infrastructure project in the history of the State of California, and more than $4 billion dollars are proposed to be expended on the proposed project between Fresno and Bakersfield.

National Headquarters
1130 17th Street, N.W.
Washington, D.C. 20036-4604
tel 202.682.9400 | fax 202.682.1331

BO096-1

California Office
1303 J Street, Suite 270 | Sacramento, CA 95814 | tel 916.313.5800 | fax 916.313.5812
www.defenders.org

Further, there are more than enough examples of less complicated and less extensive projects in which public agencies were able to provide a 90-day public review period. Indeed, nearly all of the renewable energy projects proposed on public land in the California desert under ARRA funding deadlines managed to provide the public with 90-day public review periods. (See, http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/pa/energy.Par.68898.File.dat/2011%20REAT%20Milestones.pdf)

Thus, for all of the above reasons, we urge you to extend the public review period to 90 days in order to provide the public with sufficient time to review and comment on the potential environmental impacts of the proposed project in the Fresno to Bakersfield section. Thank you for the opportunity to provide our comments on this important matter. If you have any questions, please do not hesitate to contact me.

Sincerely,

Kim Delfino
California Program Director

National Headquarters
1130 17th Street, N.W.
Washington, D.C. 20036-4604
tel 202.682.9400 | fax 202.682.1331

Response to Submission BO096 (Kim Delfino, Defenders of Wildlife, August 23, 2011)

BO096-1

Refer to Standard Response FB-Response-GENERAL-07.

Attachment to Submission BO096 (Kim Delfino, Defenders of Wildlife, August 23, 2011) - DOW HSR 90 day comment extension.pdf

California Office
1303 J Street, Suite 270 | Sacramento, CA 95814 | tel 916.313.5800 | fax 916.313.5812
www.defenders.org

August 23, 2011

Tom Umberg, Chair
Board of Directors
California High-Speed Rail Authority
770 L Street, Suite 800
Sacramento, CA 95814

RE: Request for Extension of EIR/EIS Comment Period – Fresno to Bakersfield Section

Dear Mr. Umberg and Board Members:

On behalf of Defenders of Wildlife and our more than 100,000 members and supporters in California, I am writing to request that the Board of Directors of the California High-Speed Rail Authority (Authority) extend the comment period on the Draft Environmental Impact Report (EIR) and the Draft Environmental Impact Statement (EIS) for the Fresno to Bakersfield section of the proposed California high speed train project. We request that the Authority extend the public comment period for this document from forty-five (45) days to ninety (90) days, or until November 10, 2011.

The purpose of the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) is to ensure that when government is making decisions that might affect the environment, those decisions are made only after the decision makers are fully informed of the potential environmental impacts of their proposed actions. Therefore, it is essential that there is an adequate opportunity for public review, participation and comment on the draft environmental documents supporting those decisions.

CEQA Guidelines state that 45 days is the **minimum** period of time for public review and comment on a draft EIR that has been submitted to the State Clearinghouse. Public Resources Code §21091(b); CEQA Guidelines §15105 (d). Further, the CEQA Guidelines also state that the public review period for draft EIRs could be for longer than 60 days if there is an unusual situation. CEQA Guidelines §15105 (a).

Here, the Authority has **limited the public comment period to the minimum** number of days for review when it provided a 45-day public review period for the voluminous Draft EIR/EIS for the highly debated Fresno to Bakersfield section of the proposed high-speed train. Instead, the Authority should provide 90 days for public review and comment due to the unusual situation posed by this complicated, controversial, and difficult proposed project. For example, the physical work contemplated in this section of the proposed high-speed train project will occur in a geographic area that is approximately 113 miles in length. Moreover, the proposed project is the first stage of what would be the largest public infrastructure project in the history of the State of California, and more than $4 billion dollars are proposed to be expended on the proposed project between Fresno and Bakersfield.

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www.defenders.org

Further, there are more than enough examples of less complicated and less extensive projects in which public agencies were able to provide a 90-day public review period. Indeed, nearly all of the renewable energy projects proposed on public land in the California desert under ARRA funding deadlines managed to provide the public with 90-day public review periods. (See, http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/pa/energy.Par.68898.File.dat/2011%20REAT%20Milestones.pdf)

Thus, for all of the above reasons, we urge you to extend the public review period to 90 days in order to provide the public with sufficient time to review and comment on the potential environmental impacts of the proposed project in the Fresno to Bakersfield section. Thank you for the opportunity to provide our comments on this important matter. If you have any questions, please do not hesitate to contact me.

Sincerely,

Kim Delfino
California Program Director

National Headquarters
1130 17th Street, N.W.
Washington, D.C. 20036-4604
tel 202.682.9400 | fax 202.682.1331

Submission BO097 (Kim Delfino, Defenders of Wildlife, October 3, 2011)

California Office
1303 J Street, Suite 270 | Sacramento, CA 95814 | tel 916.313.5300 | fax 916.313.5812
www.defenders.org

10-03-11P03:01 RCVD

September 27, 2011

Tom Umberg, Chair
Board of Directors
California High-Speed Rail Authority
770 L Street, Suite 800
Sacramento, CA 95814

RE: Request for an Additional Extension of EIR/EIS Comment Period – Fresno to Bakersfield Section; SCH #2009091126

Dear Mr. Umberg and Board Members:

On behalf of Defenders of Wildlife and our more than 100,000 members and supporters in California, I am writing to request that the Board of Directors of the California High-Speed Rail Authority (Authority) extend the comment period on the Draft Environmental Impact Report (EIR) and the Draft Environmental Impact Statement (EIS) for the Fresno to Bakersfield section of the proposed California high speed train project. We request that the Authority extend the public comment period for this document for an additional six (6) months to ensure adequate time by the public and interested parties to review and comment on this extensive and complicated document.

The purpose of the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) is to ensure that when government is making decisions that might affect the environment, those decisions are made only after the decision makers are fully informed of the potential environmental impacts of their proposed actions. Therefore, it is essential that there is an adequate opportunity for public review, participation and comment on the draft environmental documents supporting those decisions.

As stated in our previous letter requesting an extension to the comment period for this document, CEQA Guidelines state that 45 days is the minimum period of time for public review and comment on a draft EIR that has been submitted to the State Clearinghouse. Public Resources Code §21091(b); CEQA Guidelines §15105 (d). Further, the CEQA Guidelines also state that the public review period for draft EIRs could be for longer than 60 days if there is an unusual situation. CEQA Guidelines §15105 (a).

While we appreciate the Authority extending the comment deadline to 60 days, it is clear that an additional 15 days is not nearly enough time to provide for adequate public review and comment. Indeed, the EIR/EIS technical documents are more than 30,000 pages. There is no possible way that anyone could read 30,000 pages in 60 days and prepare adequate comments. Further, as detailed in our last letter, this project is extremely complex, covering an enormous geographic area with many different impacts and issues.

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1130 17th Street, N.W.
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California Office
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www.defenders.org

BO097-1

Therefore, we strongly urge you to extend the public review period by an additional six (6) months in order to provide the public with sufficient time to review and comment on the potential environmental impacts of the proposed project in the Fresno to Bakersfield section. The issue of constructing and funding a high speed rail system in California is an important issue that deserves adequate time for review and comment in order to ensure that the Authority is receiving detailed and engaged comment from the public and affected parties. This is too important of an issue to rush through the public process, particularly given the large public financial contribution necessary to fund this project.

Thank you for the opportunity to provide our comments on this important matter. If you have any questions, please do not hesitate to contact me.

Sincerely,

Kim Delfino
California Program Director

National Headquarters
1130 17th Street, N.W.
Washington, D.C. 20036-4604
tel 202.682.9400 | fax 202.682.1331

Response to Submission BO097 (Kim Delfino, Defenders of Wildlife, October 3, 2011)

BO097-1

Refer to Standard Response FB-Response-GENERAL-07, FB-Response-GENERAL-16.

Submission BO098 (No Name, DrillerNation.com, August 25, 2011)

Fresno - Bakersfield - RECORD #157 DETAIL

Status :	Action Pending
Record Date :	8/25/2011
Response Requested :	
Stakeholder Type :	Other
Submission Date :	8/25/2011
Submission Method :	Website
First Name :	Driller
Last Name :	Nation.com
Professional Title :	
Business/Organization :	DrillerNation.com
Address :	
Apt./Suite No. :	
City :	Bakersfield
State :	CA
Zip Code :	93301
Telephone :	
Email :	Project@OnceaDrillerAlwaysaDriller.org
Email Subscription :	Fresno - Bakersfield
Cell Phone :	
Add to Mailing List :	Yes
Stakeholder Comments/Issues :	To whom it may concern, On behalf of the entire DrillerNation.com, develop another route.. Why? The history this great high school means this city, for the Once a Driller Always a Driller tradition and for what it means to have these historic buildings be kept in there rightful place for many more years to come.. Please develop another route to save this historic high school from being tarnished and/or destroyed... We thank you for supporting & honoring & keeping the "Driller Nation," alive and well in rightful place, where its always been.. Project@OnceaDrillerAlwaysaDriller.org "An online community for all things Driller, for every Driller, past, present and future..."
EIR/EIS Comment :	Yes

BO098-1

Response to Submission BO098 (No Name, DrillerNation.com, August 25, 2011)

BO098-1

Refer to Standard Responses FB-Response-SO-08.

Submission BO099 (Eldon Thiesen, Eldon Thiesen Farms, October 5, 2011)

CALIFORNIA High-Speed Rail Authority

10-05-11P04:05 RCVD

Comment Card
Tarjeta de Commentarios

Fresno to Bakersfield High-Speed Train Section
Draft Environmental Impact Report/ Environmental Impact Statement (EIR/EIS)
Public Hearings
September 2011
Please submit your completed comment card at the end of the meeting, or mail to:
Fresno to Bakersfield DEIR/EIS Comment, 770 L Street, Suite 800, Sacramento, CA 95814

La Sección de Fresno a Bakersfield del Tren de Alta Velocidad Proyecto de Informe de Impacto Ambiental/ Declaración de Impacto Ambiental (EIR/EIS)
Audiencias Públicas
Septiembre del 2011
Por favor entregue su tarjeta completada al final de la reunión, o envíela por correo a la siguiente dirección:

The comment period is from August 28, 2011. Comments must be received postmarked, on or before Sept

Extended comment period for Fresno to Bakersfield High-Speed Train Draft EIR/EIS:
August 15-October 13

ario es del 15 de Agosto al 28 011. Los comentarios tienen que ser nente, o matasellados, el o antes e del 2011.

Name/Nombre: Eldon Thiesen
Organization/Organización: Eldon Thiesen Farms
Address/Domicilio: 1338 21st Ave
Phone Number/Número de Teléfono: 559-897-3677
City, State, Zip Code/Ciudad, Estado, Código Postal: Kingsburg CA 93631
E-mail Address/Correo Electrónico: eldon@eythiesen.com
(Use additional pages if needed/Usar paginas adicionales si es necesario)

I understand to some degree the rational for the high-speed rail: a growing population in the state and in the Central Valley and the demands that will have on our transportation needs. But there are other important needs a growing population requires, and a viable productive farmland that will feel them is first on that list. Since we have two opposing but important needs, it would seem prudent to minimize the impact of the rail system while maximizing the use and utility of our farm land. With this in mind, I would suggest that an underpass where the high-speed rail crosses over Davis Avenue in Fresno County would disrupt far fewer acres of farm land than the overpass now under consideration.

BO099-1

For full disclosure, an underpass would have a significant smaller impact on my farm.

Eldon Thiesen

Response to Submission BO099 (Eldon Thiesen, Eldon Thiesen Farms, October 5, 2011)

BO099-1

Refer to Standard Response FB-Response-AVR-04.

Submission BO100 (Dan Silver, Endangered Habitats League, September 19, 2011)

09/19/2011 15:49 FAX 001

ENDANGERED HABITATS LEAGUE
DEDICATED TO ECOSYSTEM PROTECTION AND SUSTAINABLE LAND USE

09-19-11P04:49 RCVD

September 19, 2011

Tom Umberg, Chair
Board of Directors
California High-Speed Rail Authority
770 L Street, Suite 800
Sacramento, CA 95814

09-19-11P04:49 RCVD

RE: Request For *Additional* Extension of EIR/EIS Comment Period – Fresno to Bakersfield Section

Dear Chairman Umberg and Board Members:

BO100-1

The Endangered Habitats League (EHL) respectfully requests a several month extension of the comment period, such as through February of 2012, to respond to the draft EIR/EIS on the Merced to Fresno and Fresno to Bakersfield sections of the project released by the Authority on August 9, 2011. For your reference, EHL is Southern California's only regional conservation group and is active in regional land use and transportation planning efforts.

The draft EIR/EIS is an extremely large and complex document. Indeed, the proposed project is the first stage of what would be the largest public infrastructure project in the history of the State, and the impacts likely to be associated with the proposed project are far reaching in significance. There is a compelling public interest in allowing stakeholders adequate time to comment on a project that will truly shape the future of the State.

For the many affected parties to have a reasonable opportunity to participate, an extension until February of 1012 is necessary. Such a comment period will allow decision-makers the full benefit of high quality public review, which is central to the purposes of the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). Please act to ensure the best project possible by providing a number of months to comment on the potential impacts of the Fresno to Bakersfield section.

Sincerely,

Dan Silver
Executive Director

8424 SANTA MONICA BLVD. SUITE A 592. LOS ANGELES, CA 90069-4267 ♦ WWW.EHLEAGUE.ORG ♦ PHONE 213.804.2750

Response to Submission BO100 (Dan Silver, Endangered Habitats League, September 19, 2011)

BO100-1

Refer to Standard Response FB-Response-GENERAL-07.

Submission BO101 (Ryan Jacobsen, Fresno County Farm Bureau, September 21, 2011)

Fresno County Farm Bureau
Serving agriculture since 1917

09-21-11P04:32 RCVD

September 19, 2011

Board of Directors
California High Speed Rail Authority
770 L Street, Suite 800
Sacramento, CA 95814

Re: Request for Extension of EIR/EIS Comment Period - Fresno to Bakersfield Section

Dear Chairman and Members of the Board:

BO101-1 On behalf of the Fresno County Farm Bureau, I write to express support for the request of J.G. Boswell Company, dated September 8, 2011, for an extension of time to review the EIR/EIS documents of at least 180 days. The timeframe currently provided is not enough to adequately review the EIR/EIS and then provide comments. I look forward to a response.

Sincerely,

Ryan Jacobsen
Executive Director/CEO

1274 W Hedges Ave • Fresno, CA 93728
559-237-0263 office • 559-237-3396 fax • www.fcfb.org • info@fcfb.org

Response to Submission BO101 (Ryan Jacobsen, Fresno County Farm Bureau, September 21, 2011)

BO101-1

Refer to Standard Response FB-Response-GENERAL-07.

Submission BO102 (Praveen Buddiga, MD, Fresno-Madera Medical Society (Air Quality Sub-Committee), September 6, 2011)

AIR QUALITY PROGRAM
FRESNO-MADERA MEDICAL SOCIETY

1040 E. Herndon Ave. #101
Fresno, CA 93720

09-06-11P 25 RCVD
09-06-11P03:25 RCVD

August 22, 2011

SEP 0 6 2011

Tom Umberg, Chair Board of Directors
California High-Speed Rail Authority
770 L Street, Suite 800 Sacramento, CA 95814

RE: Request For Extension of EIR/EIS Comment Period – Fresno to Bakersfield Section

Dear Mr. Umberg and Board Members:

BO102-1

The Air Quality Sub-Committee of the Fresno-Madera Medical Society, an organization representing over 1,000 physicians in Fresno and Madera Counties request that the Board of Directors of the California High-Speed Rail Authority **extend the comment period** on the Draft Environmental Impact Report (EIR) and the Draft Environmental Impact Statement (EIS) that the Authority has prepared on the Fresno to Bakersfield section of the proposed California high- speed train project. We are strongly supportive of high speed rail/mass transit for air quality benefits, jobs, improved infrastructure in valley which is why we want to have an extended comment period to ensure a successful plan.

A Draft EIR/EIS on the Fresno to Bakersfield section of the project was released by the Authority on Tuesday, August 9, 2011, with the Authority indicating that comments on that document must be submitted by September 28, 2011. This is, essentially, a forty-five day comment period. We urge that the Authority to extend the comment period to ninety days, or until November 10, 2011.

The High-Speed Rail is great step in the right direction however; it is incumbent to provide a sufficient amount of time to hear from those who will be directly impacted. We are concerned that the existing comment period of forty-five days is not enough time for the Authority to make an informed decision, as the public will not have sufficient time to make formal comments that takes into account their important voice.

We are supportive of the High Speed Rail Project however, feel the forty-five day comment period will lead to a flawed plan as vital information on the health and environmental hazards will not have been considered or included in the plan. If not done carefully, there will be impacts on farmers, the Valley's economy, all along the route, with social and economic impacts; there will be significant air quality, global warming, and transportation impacts, which directly affect public health; there will be significant public health and safety issues, and significant growth-inducing impacts.

The proposed project is the first stage of what would be the *largest public infrastructure project in the history of the State of California*, and over $4 billion dollars are proposed to be expended on the proposed project between Fresno and Bakersfield. It is essential for the Authority to provide at least a ninety-day review period. We feel it is feasible to extend the comment period to ensure the project is a success. The following are a few examples of projects, many smaller and less complex that were give review periods greater than 45 days and a much as 90 days review periods:

- California Bay Delta Water Conservation Plan (90 days)
- Granite Mountain Wind Project (90 days)
- PG&E San Joaquin Valley Operations and Maintenance Program Habitat Conservation Plan
- Both the DEIR and SEIR for the 241 Foothill South Toll Road in Orange County (90 days)
- The I-5 Widening Project in San Diego (90 days)
- Renewable Energy Action Team - Renewable Portfolio for Standard Energy Projects (Ivanpah Solar 90 days) (http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/pa/energy.Par.68898.File.dat/2011 %20REA T%20Milestones.pdf)
- •DesertXpress High Speed Passenger Train (60-day)

As physicians, parents and residents living and practicing in one of the dirtiest air basins in the nation we have and continue to see the impacts of poor planning which is why public comment is integral to making good, sound plans which account for public health and safety. Many of our patients are farmers, farm workers, and factory workers who have been exposed to pollution and other environmental toxins. It is our job as physicians to not only treat them but to advocate on their behalf to ensure they have a safe and healthy environment to work and live in.

Again, we urge you, in the strongest terms possible, to extend the review period to provide the public ninety days, not forty-five days, to comment on the potential public health and environmental impacts of the proposed project in the Fresno to Bakersfield section. Thank you for your time and consideration to this request.

Respectfully,

Praveen Buddiga, MD
Chair, Fresno-Madera Medical Society's Air Quality Sub-committee

Submission BO102 (Praveen Buddiga, MD, Fresno-Madera Medical Society (Air Quality Sub-Committee), September 6, 2011) - Continued

Response to Submission BO102 (Praveen Buddiga, MD, Fresno-Madera Medical Society (Air Quality Sub-Committee), September 6, 2011)

BO102-1

Refer to Standard Response FB-Response-GENERAL-07.

Submission BO103 (Jean H. Watt, Friends of Harbors, Beaches, and Parks, September 30, 2011)

Friends of Harbors, Beaches, and Parks

FHBP Board of Directors
Jean Watt, President
Manny Kiesser, VP
Vikki Swanson, Treasurer
Carolyn Wood, Secretary
Stephanie Barger
Denny Bean
Jim Carr
Jack Eidt
Helen Higgins
Bob Joseph
Amy Litton
Tom Maloney
Tina Thompson Richards
Theresa Sears
Mike Wellborn

Supporting Organizations
Amigos de Bolsa Chica
Audubon, Sea & Sage Chapter
Caspers Wilderness Park Volunteers
Earth Resource Foundation
Equestrian Coalition of O.C.
Great Park Environmental Coalition
Huntington Beach Wetlands Conservancy
Huntington Beach Wildlife Care Center
Laguna Canyon Conservancy
Laguna Canyon Foundation
Laguna Greenbelt, Inc.
Sierra Club, Orange County Surfrider, Newport Beach
Stop Polluting Our Newport
Upper Npt Bay Naturalists & Friends
St. Mark Church Ecophilians

Advisory Board
Marian Bergeson
Connie Boardman
Marilyn Brewer
Roy & Ilse Byrnes
Debra Clarke
Laura Cohen
Debbie Cook
Joe Dunn
Sandy Genis
Tom Harman
Evelyn Hart
Evan Henry
Jack Keating
Vic Leipzig
Bev Perry
Claire Schlotterbeck
Dan Silver, M.D.
Nancy & Jack Skinner, M.D.
Dick Zembal

Post Office Box 9256
Newport Beach, CA 92658-9256
949-399-3669
www.fhbp.org

September 22, 2011

09-30-11P05:00 RCVD

Chairperson and Members
California High-Speed Rail Authority
770 L Street, Suite 800
Sacramento, CA 95814

Extension of Comment period for Merced to Fresno
And Fresno to Bakersfield Draft EIR/EIS Documents

Dear Chairperson Umberg and Board Members:

BO103-1

This letter is submitted on behalf of Friends of Harbors, Beaches and Parks (FHBP), a non-profit organization concerned primarily with parks and open space in Orange County but, because of the regional and statewide policies that affect parks, open spaces, and agricultural land, we are concerned with the significant negative effects of the currently proposed high speed train project throughout the state.

On behalf of FHBP, I am requesting that your Board take immediate action to provide an adequate comment period for the above-noted environmental review documents. Specifically, we urge the Authority to extend the time to comment on these two EIR/EIS documents until mid February, 2012, thus providing members of the public and those directly affected by the proposed project with at least 6 months to respond and provide comments.

Since this is a statewide project, which the Authority has chosen to review in segments, a competent and truly responsive set of comments on the impacts that will be created on any particular segment must take into account the impacts of the proposed project on other segments.

We believe that the existing comment period is inadequate and denies due process to those seeking to comment on the EIR/EIS. The initial 45 day comment period, later extended only 15 additional days to October 13, 2011, is insufficient to allow any meaningful comment on 17,000 page of documents. The 60 day review period fails to meet CEQA requirements because it fails to provide and "adequate time" to review the mass of material only lately released for public review and comment. (CEQA Guidelines §15203)

Thank you for your concern in this very imporant matter.

Sincerely, Jean H. Watt

Jean H. Watt, President

Response to Submission BO103 (Jean H. Watt, Friends of Harbors, Beaches, and Parks, September 30, 2011)

BO103-1

Refer to Standard Response FB-Response-GENERAL-07.

Submission BO104 (Todd Matthews, Full Gospel Lighthouse, September 21, 2011)

Fresno - Bakersfield - RECORD #405 DETAIL

Status :	Action Pending
Record Date :	10/4/2011
Response Requested :	No
Stakeholder Type :	CA Resident
Submission Date :	9/21/2011
Submission Method :	Project Email
First Name :	Todd
Last Name :	Matthews
Professional Title :	Pastor
Business/Organization :	
Address :	
Apt./Suite No. :	
City :	Bakersfield
State :	CA
Zip Code :	NA
Telephone :	
Email :	matthews5x5@msn.com
Email Subscription :	Fresno - Bakersfield
Cell Phone :	
Add to Mailing List :	Yes

BO104-1

Stakeholder Comments/Issues :

Greetings to all.

I am Pastor Todd Matthews of Full Gospel Lighthouse, 800 Butte St., Bakersfield, CA 93305.

This E-mail in in regards to the High Speed Railroad that is proposed to go through Bakersfield, California.

In late August, 2011 I was contacted by a grass roots program that informed me that our property would fall in line with this High Speed Railroad project. After looking at some maps and reading through documents that they sent to us, it appears to me that this is correct. But what is also apparent is that the Environmental Impact Study did not include us and therefore is incomplete. To myself, the Board and the Members of Full Gospel Lighthouse this brings us great concern.

Here at Full Gospel Lighthouse, the Lord has blessed us in many ways. Just to name a few, our property is paid for and we operate debt free. The Lord has also blessed us in many ways enabling us to touch this community. We minister to the community in many ways such as Preaching, praying, feeding, clothing, and loving them. Our church is located in an area that is considered to be low income. It also has perhaps the greatest population of homeless and at risk adults in the Bakersfield area. We get out and help them each week by being Jesus' hands extended.

Speaking as a Pastor and a man of faith, this church and property at 800 Butte Street is what the Lord God Almighty has given us and through prayer and faith in Our Lord Jesus Christ, we intend on keeping it.

Thank you for your cooperation in this matter,

Pastor Todd Matthews
Full Gospel Lighthouse
800 Butte, St.
Bakersfield, CA 93305

EIR/EIS Comment : Yes

Response to Submission BO104 (Todd Matthews, Full Gospel Lighthouse, September 21, 2011)

BO104-1

Refer to Standard Response FB-Response-SO-01.

For information on the impacts on the Full Gospel Lighthouse in Bakersfield, see Sections 5.1.1 and 5.2.5 in the Community Impact Assessment Technical Report (Authority and FRA 2012g), and refer to the Revised DEIR/Supplemental DEIS, Volume I, Section 3.12.7, Mitigation Measure SO-4, for information about the relocation of important community facilities.

Submission BO105 (Zelma Boswell, Full Gospel Lighthouse, October 3, 2011)

CALIFORNIA High-Speed Rail Authority

10-03-11P03:02 RCVD

Comment Card
Tarjeta de Commentarios

Fresno to Bakersfield High-Speed Train Section
Draft Environmental Impact Report/ Environmental Impact Statement (EIR/EIS)
Public Hearings
September 2011
Please submit your completed comment card at the end of the meeting, or mail to:
Fresno to Bakersfield DEIR/EIS Comment, 770 L Street, Suite 800, Sacramento, CA 95814

La Sección de Fresno a Bakersfield del Tren de Alta Velocidad Proyecto de Informe de Impacto Ambiental/ Declaración de Impacto Ambiental (EIR/EIS)
Audiencias Públicas
Septiembre del 2011
Por favor entregue su tarjeta completada al final de la reunión, o envíela por correo a la siguiente dirección:

The comment period is from August 1 28, 2011. Comments must be received postmarked, on or before Septer

Extended comment period for Fresno to Bakersfield High-Speed Train Draft EIR/EIS:
August 15-October 13

io es del 15 de Agosto al 28 1. Los comentarios tienen que ser nte, o matasellados, el o antes del 2011.

Name/Nombre: Zelma Boswell
Organization/Organización: Representing Full Gospel Lighthouse
Address/Domicilio: 2601 Sunny Lane #5 Village Apts
Phone Number/Número de Teléfono: 661-872-2074
City, State, Zip Code/Ciudad, Estado, Código Postal: Bakersfield Ca. 93305
E-mail Address/Correo Electrónico: —
(Use additional pages if needed/Usar paginas adicionales si es necesario)

To Whom it May Concern!
I am writing this Letter, Concerning the Fresno/Bakersfield High Speed Train, Comming through Bakersfield.
I am Very Opposed To it.

BO105-1 This Trains speed is 200-220 mph. Then you should Take it out Side of Town, it has to slow down, stop then go Again, it's Terrible, we have the worst Air Quality in the State Already, we have Am-Track And it doesn't pay for its self. We will have to Pay China more Money, it isn't Right to Take Homes, Property, Schools, And Churches from us. The Environmental Report is inComplete, And did not even include our property, it must be Redone.

BO105-2

BO105-3 I belong to the Full Gospel Lighthouse Church at 900 Baillie St. Bakersfield, Ca. 93305 we Need our Church. Like Many Others do.

Thank You
Zelma Boswell
Zelma Boswell

Response to Submission BO105 (Zelma Boswell, Full Gospel Lighthouse, October 3, 2011)

BO105-1

Refer to Standard Response FB-Response-GENERAL-02.

Chapter 2 of the Fresno to Bakersfield Revised DEIR/Supplemental DEIS descibes station design and train service in Sections 2.2.3, Stations, and 2.6, Operations and Service Plan. As described in Chapter 2, stations would have four tracks passing through the station, two express tracks (for trains that do not stop at the station) and two tracks for trains that would stop at the station platforms. Express trains would serve major stations only, providing fast travel times; limited-stop trains would skip selected stops to provide faster service between stations; and all-stop trains would focus on regional service.

BO105-2

Refer to Standard Response FB-Response-GENERAL-14.

BO105-3

Refer to Standard Response FB-Response-SO-01.

For information about the impacts on the Full Gospel Lighthouse in Bakersfield, see Sections 5.1.1 and 5.2.5 in the Community Impact Assessment Technical Report (Authority and FRA 2012g), and the Revised DEIR/Supplemental DEIS, Volume I, Section 3.12.7, Mitigation Measure SO-4, for information about the relocation of important community facilities.

Submission BO106 (Linda Ellsworth, Full Gospel Lighthouse, October 3, 2011)

CALIFORNIA
High-Speed Rail Authority

10-03-11P03:02 RCVD

Comment Card
Tarjeta de Commentarios

Fresno to Bakersfield High-Speed Train Section Draft Environmental Impact Report/ Environmental Impact Statement (EIR/EIS)
Public Hearings
September 2011
Please submit your completed comment card at the end of the meeting, or mail to:

La Sección de Fresno a Bakersfield del Tren de Alta Velocidad Proyecto de Informe de Impacto Ambiental/ Declaración de Impacto Ambiental (EIR/EIS)
Audiencias Públicas
Septiembre del 2011
Por favor entregue su tarjeta completada al final de la reunión, o envíela por correo a la siguiente dirección:

Fresno to Bakersfield DEIR/EIS Comment, 770 L Street, Suite 800, Sacramento, CA 95814

The comment period is from August 28, 2011. Comments must be receivec postmarked, on or before Sept

Extended comment period for Fresno to Bakersfield High-Speed Train Draft EIR/EIS:
August 15-October 13

ario es del 15 de Agosto al 28 11. Los comentarios tienen que ser ente, o matasellados, el o antes del 2011.

Name/Nombre: Linda K Ellsworth
Organization/Organización: Representing Full Gospel Lighthouse
Address/Domicilio: 622 South Fairfax Rd. # 86
Phone Number/Número de Teléfono: 661-366-4233
City, State, Zip Code/Ciudad, Estado, Código Postal: Bakersfield Calif. 93307
E-mail Address/Correo Electrónico:
(Use additional pages if needed/Usar paginas adicionales si es necesario)

This is Linda K Ellsworth, I go to Full Gospel Lighthouse, 800 Bittle St. Bakersfield Calif. 93305.

BO106-1 The environmental reports is incomplete, and did not include our property. It must be redone. I love my church, we have neighbors and apartments, they dont understand

BO106-2 I am against the High-Speed Rail. To borrow money to put us deeper & deeper in debt to

BO106-3 China. We have amtrack already use it we dont want them to loose their jobs.

with prayer it wont be built.

Linda K. Ellsworth

Response to Submission BO106 (Linda Ellsworth, Full Gospel Lighthouse, October 3, 2011)

BO106-1

Refer to Standard Response FB-Response-SO-01.

For information about the impacts on the Full Gospel Lighthouse in Bakersfield, see Sections 5.1.1 and 5.2.5 in the Community Impact Assessment Technical Report (Authority and FRA 2012g), and the Revised DEIR/Supplemental DEIS, Volume I, Section 3.12.7, Mitigation Measure SO-4, for information about the relocation of important community facilities.

BO106-2

Refer to Standard Response FB-Response-GENERAL-17.

BO106-3

Refer to Standard Response FB-Response-SO-01.

For information about the impacts on the Full Gospel Lighthouse in Bakersfield, see Sections 5.1.1 and 5.2.5 in the Community Impact Assessment Technical Report (Authority and FRA 2012g), and the Revised DEIR/Supplemental DEIS, Volume I, Section 3.12.7, Mitigation Measure SO-4, for information related to the relocation of important community facilities.

Submission BO107 (Ellen & Charles Miller, Full Gospel Lighthouse, October 3, 2011)

CALIFORNIA High-Speed Rail Authority

10-03-11P03:21 RCVD

Comment Card
Tarjeta de Commentarios

Fresno to Bakersfield High-Speed Train Section
Draft Environmental Impact Report/ Environmental Impact Statement (EIR/EIS)
Public Hearings
September 2011

Please submit your completed comment card at the end of the meeting, or mail to:

Fresno to Bakersfield DEIR/EIS Comment, 770 L Street, Suite 800, Sacramento, CA 95814

La Sección de Fresno a Bakersfield del Tren de Alta Velocidad Proyecto de Informe de Impacto Ambiental/ Declaración de Impacto Ambiental (EIR/EIS)
Audiencias Públicas
Septiembre del 2011

Por favor entregue su tarjeta completada al final de la reunión, o enviela por correo a la siguiente dirección:

The comment period is from August 1 28, 2011. Comments must be received postmarked, on or before Septer

Extended comment period for Fresno to Bakersfield High-Speed Train Draft EIR/EIS:
August 15-October 13

io es del 15 de Agosto al 28 1. Los comentarios tienen que ser nte, o matasellados, el o antes del 2011.

Name/Nombre: Ellen + Charles Miller
Organization/Organización: Full Gospel Lighthouse
Address/Domicilio: 810 Butte St.
Phone Number/Número de Teléfono: 1-661-831-5529
City, State, Zip Code/Ciudad, Estado, Código Postal: Bakersfield, Ca 93304
E-mail Address/Correo Electrónico: None
(Use additional pages if needed/Usar paginas adicionales si es necesario)

BO107-1 The Environmental Impact report is not Complete. All the material does not have spanish reading which you know over 3/4 of Calif is spanish. this will destroy at least 5 Churches 3 schools and Plazas where low income familys live, where will you place them. this will not Create new Jobs But will destroy lives, homes. this high speed rail really hasnt really been studied there's now Cant even fix our streets why build something over half the people Cant afford to use. Even Am Track is in trouble what makes you think High Speed will be different.

Response to Submission BO107 (Ellen & Charles Miller, Full Gospel Lighthouse, October 3, 2011)

BO107-1

Refer to Standard Response FB-Response-GENERAL-01, FB-Response-GENERAL-16, FB-Response-GENERAL-21, FB-Response-SO-04, FB-Response-SO-05, FB-Response-SO-07.

For information on effects on school districts, see the Revised DEIR/Supplemental DEIS, Volume II, Appendix 3.12-B.

Submission BO108 (Jesse Cary, Full Gospel Lighthouse, October 4, 2011)

CALIFORNIA High-Speed Rail Authority

10-04-11P04:03 RCVD

Comment Card
Tarjeta de Commentarios

Fresno to Bakersfield High-Speed Train Section
Draft Environmental Impact Report/ Environmental Impact Statement (EIR/EIS)
Public Hearings
September 2011

La Sección de Fresno a Bakersfield del Tren de Alta Velocidad Proyecto de Informe de Impacto Ambiental/ Declaración de Impacto Ambiental (EIR/EIS)
Audiencias Públicas
Septiembre del 2011

Please submit your completed comment card at the end of the meeting, or mail to:
Por favor entregue su tarjeta completada al final de la reunión, o envíela por correo a la siguiente dirección:
Fresno to Bakersfield DEIR/EIS Comment, 770 L Street, Suite 800, Sacramento, CA 95814

The comment period is from August 1 28, 2011. Comments must be received postmarked, on or before Septer

Extended comment period for Fresno to Bakersfield High-Speed Train Draft EIR/EIS:
August 15-October 13

io es del 15 de Agosto al 28 1. Los comentarios tienen que ser nte, o matasellados, el o antes del 2011.

Name/Nombre: Jesse Cary
Organization/Organización: Full Gospel Lighthouse, 800 Butte
Address/Domicilio: 404 Francis St. (Home)
Phone Number/Número de Teléfono: 393-8077
City, State, Zip Code/Ciudad, Estado, Código Postal: Bakersfield, Ca. 93305
E-mail Address/Correo Electrónico:
(Use additional pages if needed/Usar paginas adicionales si es necesario)

BO108-1 I am against the high speed train. The enviromental report was not done correct. I don't think we need this train. I don't believe in taking property away from Churches. We don't have the money to pay for the train

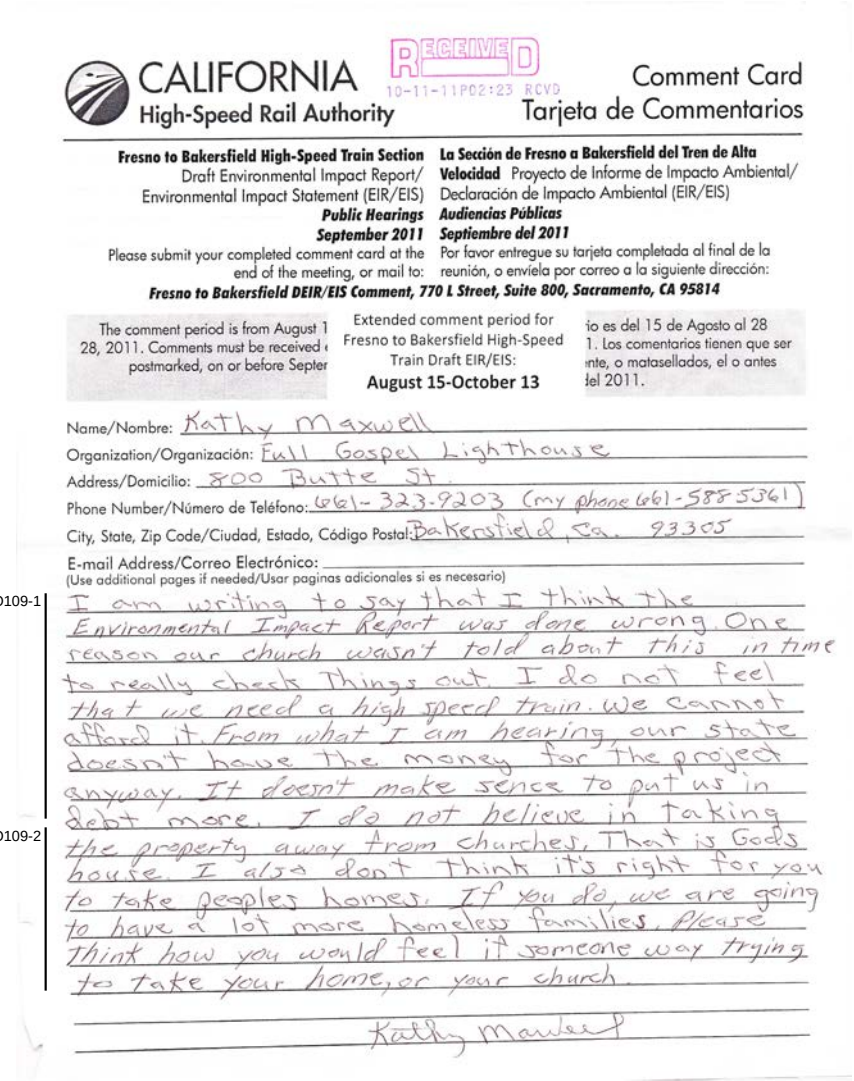
Jesse L. Cary

Response to Submission BO108 (Jesse Cary, Full Gospel Lighthouse, October 4, 2011)

BO108-1

Refer to Standard Response FB-Response-GENERAL-14.

Submission BO109 (Kathy Maxwell, Full Gospel Lighthouse, October 11, 2011)



CALIFORNIA High-Speed Rail Authority

RECEIVED 10-11-11P02:23 RCVD

Comment Card
Tarjeta de Commentarios

Fresno to Bakersfield High-Speed Train Section
Draft Environmental Impact Report/ Environmental Impact Statement (EIR/EIS)
Public Hearings
September 2011
Please submit your completed comment card at the end of the meeting, or mail to:
Fresno to Bakersfield DEIR/EIS Comment, 770 L Street, Suite 800, Sacramento, CA 95814

La Sección de Fresno a Bakersfield del Tren de Alta Velocidad Proyecto de Informe de Impacto Ambiental/ Declaración de Impacto Ambiental (EIR/EIS)
Audiencias Públicas
Septiembre del 2011
Por favor entregue su tarjeta completada al final de la reunión, o envíela por correo a la siguiente dirección:

The comment period is from August 1 28, 2011. Comments must be received postmarked, on or before Septer

Extended comment period for Fresno to Bakersfield High-Speed Train Draft EIR/EIS:
August 15-October 13

io es del 15 de Agosto al 28 1. Los comentarios tienen que ser nte, o matasellados, el o antes del 2011.

Name/Nombre: Kathy Maxwell
Organization/Organización: Full Gospel Lighthouse
Address/Domicilio: 800 Butte St.
Phone Number/Número de Teléfono: 661-323-9203 (my phone 661-588 5361)
City, State, Zip Code/Ciudad, Estado, Código Postal: Bakersfield, Ca. 93305
E-mail Address/Correo Electrónico:
(Use additional pages if needed/Usar paginas adicionales si es necesario)

BO109-1 I am writing to say that I think the Environmental Impact Report was done wrong. One reason our church wasn't told about this in time to really check things out. I do not feel that we need a high speed train. We cannot afford it. From what I am hearing, our state doesn't have the money for the project anyway. It doesn't make sence to put us in dept more. I do not believe in taking the property away from churches. That is Gods house. I also dont think it's right for you to take peoples homes. If you do, we are going to have a lot more homeless families. Please think how you would feel if someone way trying to take your home, or your church.

BO109-2

Kathy Maxwell

Response to Submission BO109 (Kathy Maxwell, Full Gospel Lighthouse, October 11, 2011)

BO109-1

Refer to Standard Response FB-Response-GENERAL-17.

The Revised DEIR/Supplemental DEIS includes an analysis of project-related impacts east of the alternative Bakersfield station sites to Oswell Street where all of the alternatives through Bakersfield converge. The analysis addresses impacts on the Full Gospel Lighthouse Church.

BO109-2

Refer to Standard Response FB-Response-SO-01.

For information on the impacts on the Full Gospel Lighthouse in Bakersfield, see Sections 5.1.1 and 5.2.5 in the Community Impact Assessment Technical Report (Authority and FRA 2012g), and refer to the Revised DEIR/Supplemental DEIS, Volume I, Section 3.12.7, Mitigation Measure SO-4: Implement measures to reduce impacts associated with the relocation of important facilities. The Authority will consult with the affected parties before land acquisition to assess potential opportunities to reconfigure land use and buildings and/or relocate affected facilities, as necessary, to minimize the disruption of facility activities and services, and also to ensure relocation that allows the community currently served to continue to access these services.

Submission BO110 (Wayne Maxwell, Full Gospel Lighthouse, October 11, 2011)

CALIFORNIA High-Speed Rail Authority

RECEIVED 10-11-11P02:24

Comment Card
Tarjeta de Commentarios

Fresno to Bakersfield High-Speed Train Section
Draft Environmental Impact Report/ Environmental Impact Statement (EIR/EIS)
Public Hearings
September 2011
Please submit your completed comment card at the end of the meeting, or mail to:
Fresno to Bakersfield DEIR/EIS Comment, 770 L Street, Suite 800, Sacramento, CA 95814

La Sección de Fresno a Bakersfield del Tren de Alta Velocidad Proyecto de Informe de Impacto Ambiental/ Declaración de Impacto Ambiental (EIR/EIS)
Audiencias Públicas
Septiembre del 2011
Por favor entregue su tarjeta completada al final de la reunión, o envíela por correo a la siguiente dirección:

The comment period is from August 1 28, 2011. Comments must be received postmarked, on or before Septer

Extended comment period for Fresno to Bakersfield High-Speed Train Draft EIR/EIS:
August 15-October 13

io es del 15 de Agosto al 28 1. Los comentarios tienen que ser nte, o matasellados, el o antes del 2011.

Name/Nombre: Wayne Virgil Maxwell
Organization/Organización: Full Gospel Lighthouse
Address/Domicilio: ~~2013 Marco Polo~~ 800 Butte ST
Phone Number/Número de Teléfono: 661-588-5361
City, State, Zip Code/Ciudad, Estado, Código Postal: Bakersfield, California 93312-6119
E-mail Address/Correo Electrónico: NONE
(Use additional pages if needed/Usar paginas adicionales si es necesario)

BO110-1 I don't think the Draft Environmental Impact Report Environmental Impact statement (EIR/EIS Was well thought out. A Hight speed train will not let the dust settle in this valley. This is also a Valley fever nesting area. The travelers will be exposed to the fever as well as not helping us by keeping the fever in the air. I look at the high speed train as a waist of my Tax payers money. Youll have to support it because people like myself can't aford the ride. By the high speed train trying to get there way with out proper public notice, this should tell you this is a sham on the taxpayer. I hear their going to wipe out 4 churches for sure, and more. were told they want this area for safty. LOOK again. I hope you see by my concerns shows there reports wasn't well thought out. I don't think the hight speed train is in my familys best Interest and I like the church at 800 Butte St.
Tax payer Wayne Maxwell 10-6-2011

Response to Submission BO110 (Wayne Maxwell, Full Gospel Lighthouse, October 11, 2011)

BO110-1

Refer to Standard Response FB-Response-AQ-01.

The dust minimization measures listed in Section 3.3.8 of the Revised DEIR/Supplemental DEIS will further reduce fugitive-dust emissions to a less-than-significant impact. Valley Fever spores would be released when the soil is disturbed; however, due to the minimization measures, fugitive-dust disturbance will be minimal. Therefore, impacts from Valley Fever spores would be less than significant.

Submission BO111 (Jeffrey A. Meger, Grimmway Farms, October 11, 2011)

GRIMMWAY FARMS

A family of *Growing* companies.

RECEIVED 10/11/11 10:30 AM

Mr. Jeff Abercrombie
California High-Speed Rail Authority
770 L Street, Suite 800
Sacramento, CA 95814

REF: EIR Comments and Recommendations for Central Valley Grade Separations

Dear Mr.Abercrombie,

As a landowner adjacent to Santa Fe Way, we are fully supportive of the comments contained within the October 5, 2011 correspondence (attached) to you from the City of Bakersfield, City of Shafter, Greater Bakersfield Separation of Grade District, and the County of Kern Roads Department.

BO111-1

We understand that some of our lands will be needed to accommodate right-of-way acquisitions for the separations envisioned and described with the correspondence. We look forward to discussing any reasonable acquisition methods you suggest for such lands.

We look forward to working with your Agency.

Sincerely,

Jeffrey A. Meger
President

P.O. 81498 • Bakersfield, CA 93380-1498
tel: (661) 854-6200 • fax: (661) 854-6209
www.grimmway.com

Response to Submission BO111 (Jeffrey A. Meger, Grimmway Farms, October 11, 2011)

BO111-1

Refer to Standard Response FB-Response-SO-01.

Submission BO112 (Todd Fukuda, GWAAC, October 12, 2011)

4

CALIFORNIA High-Speed Rail Authority

10-12-11P02:13 RCVD
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Comment Card
Tarjeta de Commentarios

Fresno to Bakersfield High-Speed Train Section
Draft Environmental Impact Report/ Environmental Impact Statement (EIR/EIS)
Public Hearings
September 2011
Please submit your completed comment card at the end of the meeting, or mail to:
Fresno to Bakersfield DEIR/EIS Comment, 770 L Street, Suite 800, Sacramento, CA 95814

La Sección de Fresno a Bakersfield del Tren de Alta Velocidad Proyecto de Informe de Impacto Ambiental/ Declaración de Impacto Ambiental (EIR/EIS)
Audiencias Públicas
Septiembre del 2011
Por favor entregue su tarjeta completada al final de la reunión, o envíela por correo a la siguiente dirección:

The comment period is from Au 28, 2011. Comments must be rec postmarked, on or before

Extended comment period for Fresno to Bakersfield High-Speed Train Draft EIR/EIS:
August 15-October 13

nentario es del 15 de Agosto al 28 l 2011. Los comentarios tienen que ser ıicamente, o matasellados, el o antes mbre del 2011.

Name/Nombre: Todd Fukuda
Organization/Organización: GWAAC
Address/Domicilio: 2033 Mayfair Dr
Phone Number/Número de Teléfono: 559-904-3479
City, State, Zip Code/Ciudad, Estado, Código Postal: Hanford, CA, 93230
E-mail Address/Correo Electrónico: fukudaup02@hotmail.com
(Use additional pages if needed/Usar paginas adicionales si es necesario)

BO112-1 What water runoff measures are taken not to have water reach fields or flood fields on heavy rain days as we experienced in 2011? What measures

BO112-2 taken to prevent flooding over ~~the~~ HSR alignment & preventing access to fields bordering HSR alignment.

Response to Submission BO112 (Todd Fukuda, GWAAC, October 12, 2011)

BO112-1

Refer to Standard Response FB-Response-HWR-02.

Please see FB-Response-HWR-02 regarding site-specific drainage impacts. In general, the HST would have drainage swales along the at-grade portions of track, which would be sized to accommodate project runoff.

BO112-2

Refer to Standard Response FB-Response-HWR-02, FB-Response-HWR-03.

Submission BO113 (Todd Fukuda, GWAAC, October 12, 2011)

5

CALIFORNIA High-Speed Rail Authority

10-12-11P02:14 RCVD RECEIVED

Comment Card / Tarjeta de Commentarios

Fresno to Bakersfield High-Speed Train Section Draft Environmental Impact Report/ Environmental Impact Statement (EIR/EIS)
Public Hearings
September 2011

La Sección de Fresno a Bakersfield del Tren de Alta Velocidad Proyecto de Informe de Impacto Ambiental/ Declaración de Impacto Ambiental (EIR/EIS)
Audiencias Públicas
Septiembre del 2011

Please submit your completed comment card at the end of the meeting, or mail to: Por favor entregue su tarjeta completada al final de la reunión, o enviela por correo a la siguiente dirección:

Fresno to Bakersfield DEIR/EIS Comment, 770 L Street, Suite 800, Sacramento, CA 95814

The comment period is from Au 28, 2011. Comments must be rec postmarked, on or before

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Name/Nombre: Todd Fukuda
Organization/Organización: GWAAC
Address/Domicilio: 2033 Mayfair Dr
Phone Number/Número de Teléfono: 559-904-3479
City, State, Zip Code/Ciudad, Estado, Código Postal: Hanford, CA 93230
E-mail Address/Correo Electrónico: tfukudacp62@hotmail.com
(Use additional pages if needed/Usar paginas adicionales si es necesario)

BO113-1 At 220 MpH how many feet from the HST where winds will be

BO113-2 below 10 MpH / what category chemicals are you allowing to be sprayed near the HST (two pt)

Response to Submission BO113 (Todd Fukuda, GWAAC, October 12, 2011)

BO113-1

Refer to Standard Response FB-Response-AG-05.

BO113-2

The text of the Revised DEIR/Supplemental DEIS in Section 3.10, Hazardous Materials and Wastes, has been revised in response to the comment.

Submission BO114 (Stanley Wilson, et al, Handel & Wilson Farms, October 13, 2011)

Handel & Wilson Farms

Growers of Almonds, Grapes, Cotton & Potatoes
P.O. Box 699
Shafter, Calif. 93263

October 10, 2011

Fresno to Bakersfield Draft EIR/EIS Comment
770 L Street. Suite 800
Sacramento, CA. 95814

Ladies & Gentlemen Of the Authority:

BO114-1

We have looked at portions of your massive EIR document and first of all say that the best routing for California HSR, would be the Interstate Five alignment, with a feeder line to Fresno. This presents the lowest cost of construction with the least damage to the cities and farms of the East Valley, and providing the fastest service connecting Southern & Northern California. Since you have not presented that alignment as an option, we would like to make the following comments on your EIR statement.

First of all we find no consideration in your "No Project Alternative", where you have considered the possibility of upgrading existing rail service on the existing rail lines through installation of higher speed signaling and double tracking, with some grade crossing eliminations. This certainly is an option, that while providing a lower overall speed would have much less impact on the environment of the Central Valley. Construction of new track should be concentrated on filling the gap between Bakersfield and Los Angeles. While the total travel time would be greater, a very effective system could be achieved at a much lower overall investment. Recent travels in Europe on rebuilt railroad right of ways; have confirmed the ability to achieve speeds of up to 150 mph.

BO114-2

Secondly, in regard to your chapter on Agriculture, we feel that the EIR greatly minimizes the impact and costs of crossing agriculture on a northwest diagonal as proposed for the Shafter-Wasco Bypass Alignment. This is the area that directly affects our farming operation.

A. Your acreage figures are incorrect. When you take out a 100-foot strip from a farmland parcel you also create a dead space on each side of the railroad that must be left available as a turn row and headland, 50 feet on each side. Therefore the amount removed from production is 200 feet, not 100 feet, and farmers will have to be reimbursed for the entire amount.

BO114-2

B. You state that there will be some parcel fragments that will be left, that will be uneconomic to farm, but there is no indication given of the size of that parcel or what factors would determine that decision. You make suggestion that some of these parcels could be combined with other owners. We feel that EIR fails to properly identify these parcels, their size, and the mitigation that would be required.

C. There is minimal discussion of the cost of relocation of irrigation facilities. First of all the natural slope of farmland in the area is southwest. By cutting through on a northeast angle, you have virtually eliminated the natural drainage on every piece of farmland. Water does not flow uphill, and every parcel on the east side of the alignment would have to be releveled or resloped to account for this. Secondly, many parcels have intensive micro irrigation systems, with multiple buried lines, all requiring new engineering and replacement. And finally, the water source on this land is two fold, from pumping plants and from water districts: the Shafter Wasco Irrigation District or the North Kern Water Storage District. For most parcels, these water sources are all on the north and east sides of the farm. The parcels west of the HSR alignment will be left with no water sources. Either this must be provided by the drilling of new wells and new water district service outlets, or by piping under the HSR. How is this determination going to be made and what size remaining parcel will be determined to be large enough to receive water. Will the HSR be willing to purchase many of these smaller uneconomic parcels?

D. All though claim is made that access will be provided for farmers between severed parcels. How will this play out? The effect of travel time and miles are not indicated. Farm machinery is often up to 24 feet wide and 16 feet high. Are crossings going to be adequate to move this machinery? Are overpasses designed for safety in the moving of farm machinery?

E. We do not think the EIR effectively addresses the impact to agricultural operations of t frequent 220 mph trains. We found no study or information submitted that reports on other parts of the world and how HSR has effected agriculture in those areas. Pollination is of primary concern. Will HSR be creating microclimates that will have direct effect on crop production?

BO114-3

Third, We did not find sufficient discussion concerning the North Shafter Oil Field, the replacement of existing production wells, which HSR may eliminate and the compensation to mineral rights holders of the loss of income during construction due to replacement of existing oil service lines and wells.

BO114-4

Fourth, We would like to comment on the proposed BNSF alignment through Shafter, if that route should be chosen. The three overpasses designed north of Shafter at Fresno, Poplar, and Merced, we feel are too close together and aggregately remove too much farm land from production. Two overpasses seem sufficient in this small length of space. The design of these over passes to cross HSR & BNSF at a right angle, and then build a circular connecting road back to the original road seems clumsy and inefficient at best, creating sizable unusable pieces of farm land. We did not find much discussion of the

Submission BO114 (Stanley Wilson, et al, Handel & Wilson Farms, October 13, 2011) - Continued

BO114-4 environmental impact of designing overpasses in this way. Engineering should come up with an overpass in align with or along side the existing roads.

Respectively,

Stanley. D. Wilson

Nancy E. Wilson

Benjamin P. Wilson

Myron Friesen

Response to Submission BO114 (Stanley Wilson, et al, Handel & Wilson Farms, October 13, 2011)

BO114-1

Refer to Standard Response FB-Response-GENERAL-02, FB-Response-GENERAL-13.

As discussed in Chapter 1 of the EIR/EIS, California's population is growing rapidly and, unless new transportation solutions are identified, traffic will only become more congested and airport delays will continue to increase. The proposed 220-miles-per-hour (mph) HST System would provide lower passenger costs than air travel for the same city-to-city markets and service competitive with automobile travel. It would increase mobility while reducing air pollution, decreasing dependence on fossil fuels, protecting the environment by reducing greenhouse gas emissions, and promoting sustainable development in the areas near the stations, in comparison to existing trends. By moving people more quickly and at lower cost than today, the HST System would boost California's productivity and also enhance the economy. See the discussion under Section 1.2.4, Statewide and Regional Need, in the EIR/EIS.

The No Project Alternative is described in Chapter 2 of the Fresno to Bakersfield EIR/EIS and analyzed in each of the individual resource sections of Chapter 3. Existing track is designed for lower-speed freight delivery and passenger service where agreements with Amtrak are in place. Reaching speeds of even 150 mph would not meet the Proposition 1A requirement of providing a maximum service nonstop travel time between San Francisco and Los Angeles of 2 hours and 40 minutes. As existing rail lines are owned by other entities, the upgrade of existing rail lines is not under Authority jurisdiction.

The Authority will use the information in the EIR/EIS and input from agencies and the public to identify the Preferred Alternative. The decision will include consideration of the project purpose and need and the project objectives presented in Chapter 1, Project Purpose and Need, as well as the objectives and criteria in the alternatives analysis and the comparative potential for environmental impacts.

Construction of HST track between Bakersfield and Los Angeles is planned for Phase 1 of the HST System and will be covered in subsequent project-level environmental analyses for the Bakersfield to Palmdale and Palmdale to Los Angeles sections of the HST System.

BO114-2

Refer to Standard Response FB-Response-AG-02 and FB-Response-AG-05.

See Volume I, Section 3.1, Impact AG#5 for more information on effects on agricultural land from parcel severance. See Volume I, Section 3.14, Impact AG#10 for information on the wind-induced effects. See Volume I, Section 3.14, Impact AG#11 for information on the impacts on aerial pesticide spraying, dust, and pollination.

BO114-3

Refer to Standard Response FB-Response-SO-01.

Alignment plans and maps of parcels directly affected by the project, where the whole parcel or a portion thereof would be acquired by the project, are provided in Volume III of the EIR/EIS. Impacts and costs associated with oil well relocation are included in the Final EIR/EIS.

See Volume I, Section 3.6, Public Utilities and Energy, Impact PU&E#10 – Potential Conflicts with Petroleum and Fuel Pipelines. Replacement wells would occur in the same field as the displaced wells and continue to withdraw from the expansive Eocene Total Petroleum System within the San Joaquin Basin Province. There would be no change to the capacity of the oil field or the ability of industry to extract crude oil. The cost for well decommissioning and replacement would be borne by the Authority, and the effect on the capacity or viability of the petroleum resource and industry extraction operations relative to public utilities and energy would be less than significant. The effect would have negligible intensity under NEPA, and impacts would be less than significant under CEQA.

BO114-4

Refer to Standard Response FB-Response-AG-01, FB-Response-AG-02, FB-Response-AG-03.

The referenced overpasses have been redesigned. Please refer to Volume III of the EIR/EIS where engineering drawings are provided.

Submission BO115 (Charles Barrett, Heritage Fresno, September 19, 2011)

Fresno - Bakersfield - RECORD #221 DETAIL

Status :	Action Pending
Record Date :	9/19/2011
Response Requested :	
Stakeholder Type :	Environmental
Submission Date :	9/19/2011
Submission Method :	Website
First Name :	Charles
Last Name :	Barrett
Professional Title :	Co-chair
Business/Organization :	Heritage Fresno
Address :	
Apt./Suite No. :	
City :	Fresno
State :	CA
Zip Code :	93720
Telephone :	(559) 436-8338
Email :	charles@thebarretts.com
Email Subscription :	Fresno - Bakersfield, Merced - Fresno
Cell Phone :	
Add to Mailing List :	Yes
Stakeholder Comments/Issues :	Heritage Fresno is a preservation organization organized to advocate preservation of historic districts, structures and objects. Mindful that public comment closes October 13th, and that the proposed right of way impacts H Street in downtown Fresno, we ask for maps an diagrams of the proposed trace with such explanatory matter as a full and complete understanding may require.
EIR/EIS Comment :	Yes

BO115-1

Response to Submission BO115 (Charles Barrett, Heritage Fresno, September 19, 2011)

BO115-1

This was not a comment on the EIR/EIS. The Public Outreach Team responded directly to the commenter.

Submission BO116 (Robert Dowd, J.G. Boswell Company (Atty. for), Griswold LaSalle Cobb Down & Gin L.L.P (GLCDG), September 12, 2011)

09-12-11P03:32 RCVD

Robert M. Dowd*
Robert W. Gin*
Randy L. Edwards
Jim D. Lea
Jeffrey L. Levinson*
Raymond L. Carlson
Ty N. Mizote*
Michael R. Johnson*
Steven S. Dias
Robin M. Hall
Mario U. Zamora
Laura A. Wolfe

*a Professional Corporation

Griswold LaSalle Cobb Dowd & Gin L.L.P.
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Lyman D. Griswold (1914-2000)
Michael E. LaSalle (Retired)
Steven W. Cobb (1947-1992)

SEP 1 2 2011

September 8, 2011

VIA UPS NEXT DAY AIR SAVER
TRACKING NO. 1Z F74 78R 13 9995 0584

Board of Directors
CALIFORNIA HIGH SPEED RAIL AUTHORITY
770 L Street, Suite 800
Sacramento, CA 95814-3359

Re: Extension of Draft EIR/EIS Comment Period - Fresno to Bakersfield HSR
SCH # 2009091126

Dear Chairman and Members of the Board:

This letter is submitted on behalf of J.G. Boswell Company. The purpose of this letter is to request an extension of the comment period on the above Draft EIR/EIS for at least 6 months, through mid-February 2012.

The existing comment period is grossly inadequate and denies due process to those seeking to comment on the EIR/EIS. The initial 45 day comment period, later extended only 15 additional days to October 13, 2011, is plainly insufficient to allow any meaningful comment on 17,000 pages of documents.[1] See Appendix A for list of documents and page lengths. The 17,000 page total does not include any documents for the Merced to Fresno segment (SCH # 2009091125), which would bring the total to over 30,000.

The EIR/EIS is not user friendly. For example, Chapter 10 of the EIR/EIS lists 831 sources that are referenced in the report. In instances noted so far, these sources are referenced without internal citations, requiring the reviewer/commenter to obtain the document, review it, and make a judgment as to which part was intended to support the citation in the EIR/EIS. This lack of

[1]It also appears the EIR/EIS and supporting documents are available in English only.

specific citations makes it difficult to determine whether a statement made in the EIR/EIS is supported by substantial evidence.

Due to the requirements of CEQA,[2] meaningful public comment is the key phase of the CEQA public review process. The CEQA process becomes a sham without it, and results in a denial of due process.

In 2004 the Authority released the Draft Program EIR/EIS for the Proposed California High-Speed Train System (SCH # 2001042045). The State Clearinghouse set a review period of February 13, 2004 to August 31, 2004, or 6 1/2 months, for this Program EIR/EIS. It neither makes sense, nor is there any good reason, why the review period for the Program EIR/EIS was more than 6 1/2 months while the review period for the much more detailed Project specific EIR/EIS is only 2 months.

In view of the above, we believe that at least a 180 day comment period is required, ending mid-February 2012 as measured from August 15, 2011. This matter requires Board, rather than administrative, attention, and, accordingly, we request this matter be placed on the agenda for a special meeting at the Board's earliest convenience. As the Board's next regularly scheduled meeting is not until September 22, 2011, the urgency of this issue demands it be dealt with before then.

BO116-1

We understand that the EIR/EIS was released on August 9, 2011. The orginial comment period was for 45 days, beginning August 15, 2011 and ending September 28, 2011. This time limit was apparently set by staff without Board involvement. The 45 day period is the minimum under CEQA Guidelines § 15105(a). This time period makes no allowance for the unparalleled scope of the project.

At the August 25, 2011 Board meeting, a petition signed by about 300 Kings County residents was submitted by Hanford-area farmer Frank Oliveira on behalf of the Citizens for California High Speed Rail Accountability (CCHSRA). These citizens asked for a 45 day extension, making for a total of a 90 day review and comment period. The request was not on the Board's meeting agenda, but staff did grant an additional 15 days to the original 45 day comment period for a total of 60 days. The comment period now ends October 13, 2011 which corresponds to the end date of the State Clearinghouse (SCH) review period.

[2]All statutory references to CEQA are to Public Resources Code §§ 21000 et. seq. CEQA's implementing regulations are known as the "CEQA Guidelines" and are set forth at 14 Cal. Code Regs. §§ 15000 et seq., and are referred to as "CEQA Guidelines § _____" or as "Guidelines § _____."

Submission BO116 (Robert Dowd, J.G. Boswell Company (Atty. for), Griswold LaSalle Cobb Down & Gin L.L.P (GLCDG), September 12, 2011) - Continued

The High Speed Rail (HSR) project is the largest and most expensive infrastructure project in the history of the State of California and even its component parts -- the Fresno to Bakersfield segment, or the Merced to Fresno segment, -- could fairly be estimated to be the largest infrastructure projects in State history, and certainly in the history of the San Joaquin Valley.

As stated above, the EIR/EIS for the Fresno to Bakersfield segment, select supporting documents, and technical data available at the Fresno-Bakersfield EIR/EIS web page consist of 17,000 pages (See Appendix A). Not all the documents referenced in the EIR/EIS are available at that web page. If one includes the EIR/EIS and related documents for the Merced to Fresno segment, the total pages to be reviewed approaches 30,000 or more. The sheer volume of material necessitates a significant extension of the review and comment period. Two basic reasons support the extension; these reasons are explained below.

I. THE SIXTY DAY REVIEW PERIOD FAILS TO MEET CEQA REQUIREMENTS BECAUSE IT FAILS TO PROVIDE AN "ADEQUATE TIME" TO REVIEW THE MASS OF MATERIAL ONLY LATELY RELEASED FOR PUBLIC REVIEW AND COMMENT.

CEQA Guidelines § 15203 states:

> "The lead agency ***shall*** provide **adequate time** for other public agencies ***and members of the public to review and comment*** on the draft EIR or negative declaration that it has prepared." (Emphasis added.)

Adequate time is required not only because "Public participation is an essential part of the CEQA process" (CEQA Guidelines § 15201), but because the Legislature has declared that the purposes of the review period include:

(a) Sharing expertise;
(b) Disclosing agency analysis;
(c) Checking for accuracy;
(d) Detecting omissions;
(e) Discovering public concerns; and
(f) Soliciting counter proposals.

CEQA Guidelines § 15200.

The Legislature has declared:

> "The maintenance of a quality environment for the people of this state now and in the future is a matter of statewide concern." Pub. Res. Code § 21000(a).

And:

> "Every citizen has a responsibility to contribute to the preservation and enhancement of the environment." Pub. Res. Code § 21000(e).

There can be no question that CEQA and the CEQA Guidelines were developed to allow the public every possible opportunity to meaningfully participate in the EIR/EIS process.

Given the mere 60 day review period, none of the purposes of EIR/EIS review and comment can be served, for the following two major reasons:

1. **The time for review that the Authority has chosen does not allow the public "adequate time" for public review and comment, as required by CEQA Guidelines § 15203. To examine some 17,000 pages within 60 days requires a person to read 283 pages per day and no time to prepare responsive comments. The initial review period of 45 days was simply more egregious and required 378 pages per day to be read.**

In comparison, a 45 day EIR review and comment period was recently used for an ordinance by the City of Sunnyvale to prohibit single use plastic bags at grocery stores. (See City of Sunnyvale Single-Use Carryout Bag Ordinance Draft EIR, SCH #2011062032 August 2011). That EIR consisted of 210 pages which amounts to reviewing 4.6 pages per day. The High Speed Rail Authority (Authority) expects 61 times more effort **per day** just to read the mass of CEQA documentation for the Fresno to Bakersfield HSR project.[3] Such an expectation is unrealistic, unfair, and does not meet the requirement of CEQA to have adequate review period. At the "plastic bag ordinance" rate of 5 pages per day, the review period for the 16,953 pages of the Fresno-Bakersfield HSR EIR/EIS would be 3,391 days or about 9.3 years (16,953 pages x day/5 pages = 3,391 days x 1 year/365 days = 9.289 years).

These simple metrics, of course, in no way imply that the Fresno-Bakersfield HSR project is in any way comparable to Sunnyvale's plastic bag ordinance project. The former is an infinitely

[3]Also this does not include the EIR/EIS for the Merced-Fresno segment.

Submission BO116 (Robert Dowd, J.G. Boswell Company (Atty. for), Griswold LaSalle Cobb Down & Gin L.L.P (GLCDG), September 12, 2011) - Continued

more complex project proposing vast, irreversible commitments of public and private resources on the largest scale in the history of the San Joaquin Valley.

Persons who wish to comment and share their expertise, provide analysis, check for accuracy, voice their concerns, and prepare counter proposals will never be able to do so because they will never be able to review all the documents and comment in a mere 60 days.

2. **While the regulations typically allow for a 45 to 60 day comment period, the regulations also allow that time to be exceeded, without the need to otherwise stop the project, in "unusual circumstances." CEQA Guidelines § 15105(a). The HSR certainly qualifies as an unusual circumstance. In no way can the HSR project be compared to other projects in the history of the State of California and the San Joaquin Valley. Therefore, the 60 day period must be extended.**

The Legislature has declared:

> "... it is the policy of the state that projects to be carried out by public agencies be subject to the same level of review and consideration [under CEQA] as that of private projects required to be approved by public agencies." Pub. Res. Code § 21001.1.

A private company would never be allowed to undertake a project of this magnitude and be subject to a mere 60 day review period. Given the scope of the project, it is difficult to imagine that there could be a more "unusual circumstance" that would allow the typical comment period to be extended.

The "unusual circumstances" provision of CEQA Guidelines § 15105(a) gives the lead agency the necessary flexibility to set the comment period consistent with the meaningful public participation and due process goals of CEQA. This flexibility eliminates the absurdity of a "one size fits all" rule which would provide equal 45 day review and comment periods to the Sunnyvale plastic bag ordinance and the Fresno to Bakersfield HSR project. Nor must we omit that the review and comment period for the Merced to Fresno Draft EIR/EIS runs concurrently, compounding the insufficiency of the alloted time.

The Legislature has also declared that it is the policy of the state that:

> "Documents prepared pursuant to [EIR requirements] be organized and in a manner that will be meaningful and useful to decisionmakers and to the public." CEQA Guidelines § 21003.

Given the sheer volume of the documentation, in order to make the documents "meaningful and useful" there must be adequate time to review them. With only 60 days, neither the decisionmakers nor the public can make the determination of whether the EIR/EIS documents satisfy that criteria because there is insufficient time to so do.

The Authority claims transparency in its proceedings but this claim rings hollow at this crucial juncture. The Authority's "Environmental Review Fact Sheet" states:

> "The California High-Speed Rail Authority (CHSRA) and the Federal Railroad Administration (FRA) are the state and federal agencies responsible for the environmental review of the state's high-speed train system, **and together they have implemented a more transparent, collaborative and inclusive approach to the EIR/EIS process than is typical or required**, with state and local planning agencies, local communities and the general public integrated into the entire process." (Emphasis added.)

This statement is not true as to meaningful public participation and satisfaction of due process. The key point in the CEQA process is at hand and the 60 days allotted to review and comment on 17,000 pages of material for the Fresno to Bakersfield segment stacks the deck against the commenting parties. The point is exacerbated when the additional thousands of pages for the Merced to Fresno EIR/EIS are added.

II. THE SIXTY DAY REVIEW PERIOD DENIES DUE PROCESS TO INTERESTED PARTIES DUE TO THE LENGTH AND COMPLEXITY OF THE ENVIRONMENTAL DOCUMENTS FOR THE FRESNO-BAKERSFIELD HSR.

Any review period less than six months raises serious constitutional issues. The public is entitled by statute and regulation to have a meaningful review. By only allowing 60 days to review 17,000 pages of documents associated with the Fresno to Bakersfield EIR/EIS, the Authority has essentially made the public review meaningless. The Legislature has allowed the public to participate in the CEQA process as a participant and not just a spectator. By bombarding the public with documents without any hope for a complete review, the Authority has put the public on the sidelines, and due process will be violated should there be no extension.

Rights granted by CEQA must allow the public to have a meaningful review because the Legislature has recognized that "Every citizen has a responsibility to contribute to the preservation and enhancement of the environment." Pub. Res. Code § 21000(e).

CEQA was enacted in 1970 and provides a detailed process for public review. It is a "powerful tool for citizen action and government accountability." Note, The Timber Harvest Plan

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Exemption from the California Environmental Quality Act: Due Process and Statutory Intent, 41 Hastings L.J. 727, 730 (1990). In fact, the purpose of the EIR/EIS is:

> "... to provide public agencies and the public in general with detailed information about the effect which a proposed project is likely to have on the environment; to list ways in which the significant effects of such a project might be minimized; and to indicate alternatives to such a project." Pub. Res. Code § 21061.

Courts have called the EIR/EIS an "environmental 'alarm bell' whose purpose is to alert the public and its responsible officials to environmental changes *before* they have reached ecological points of no return." Santiago County Water District v. County of Orange, 118 Cal.App.3d 818, 822 (1981). To accomplish this purpose, CEQA statutes and regulations require that the public be made part of the process, including:

- Comments be accepted by the public at anytime during the EIR/EIS process (Pub. Res. Code § 21003.1(a));
- The lead agency **must** respond, in writing, to all comments received during the comment period (Pub. Res. Code § 21004);
- Relevant information should be made available as soon as possible to the public (Pub. Res. Code § 21003.1(b));
- Notice must be given to all those who have requested such when the draft EIR/EIS is complete (Pub. Res. Code § 21092);
- Draft EIR/EIS documents should be made available in local libraries (CEQA Guidelines § 15087(g));[4]
- The Public agency must publish notice in a paper of general circulation in the area of the proposed project (CEQA Guidelines § 15087(a));
- Public hearings on the documents are encouraged (CEQA Guidelines § 15087(i)); and

[4]Note that the Technical Appendices to the EIR/EIS, listed as nos. 4-43 on Appendix A, were not made available at local libraries. This is important because the appendices are referenced throughout the EIR/EIS.

- **An adequate public review period is required and can be extended in unusual circumstances** (CEQA Guidelines § 15105) (emphasis added).

CEQA regulations take public participation so seriously that the process provides grounds upon which judicial review of the project may be obtained. CEQA Guidelines § 15112.

Because public review and participation is expressly granted by statute and regulation, any review period less than six months raises serious constitutional issues under the circumstances. The public is entitled by statute and regulation to have a meaningful review. By only allowing 60 days to review some 17,000 pages of documents associated with the EIR/EIS, the Authority has essentially made the public review meaningless. The Legislature intends for the public to participate in the CEQA process in a meaningful way; in this case, requiring sufficient and adequate time for review. By releasing to the public a large quantity of documents without any hope for a complete much less a meaningful review, the Authority has made the public a spectator, and due process will be violated should there be no significant extension of time to review and comment on the documents.

1. State Constitutional Issues

The CEQA statutes and regulations, as applied, violate California Due Process requirements because the Authority has failed to provide adequate time for EIR/EIS review. In order to remedy the as applied violation, sufficient time to review the EIR/EIS must be granted.

Due process safeguards in this context are analyzed with the principle in mind that all should be free from arbitrary adjudicative procedures. People v. Ramirez, 25 Cal.3d 260, 268 (1979). A fundamental concept of due process is "the right to a reasoned explanation of government conduct that is contrary to the expectations the government has created by conferring a special status upon an individual." Id. at 276. Here, CEQA statutes and regulations confer a special status on the public by requiring meaningful review; yet the Authority has taken away that right by imposing an unreasonable review period, and providing no explanation therefor.

To determine the level of due process required, courts examine:

1. The private interest that will be affected by the official action;
2. The risk of an erroneous deprivation of such interest through the procedures used, and the probable value, if any, of additional or substitute procedural safeguards;
3. The dignitary interest in informing individuals of the nature, grounds and consequences of the action and in enabling them to present their side of the story before a responsible governmental official; and

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4. The governmental interest, including the function involved and the fiscal and administrative burdens that the additional or substitute procedural requirement would entail. Id. at 269.

The private interest here is compelling; CEQA statutes and regulations mandate that the public be allowed meaningful and adequate review of the EIR/EIS. In this respect, the Legislature has already determined that the public has a significant interest in proper review.

The risk that the private interest will be erroneously deprived is high; in fact it is happening. Although the regulations allow the Authority to declare the most expansive and expensive infrastructure project in the history of California an "unusual circumstance" and provide additional time for public review and comment, the Authority has (so far) failed to so do and without any explanation. In addition, as the Authority is well aware, the review period ends the time that individuals may comment and preserve issues that must be on the record for judicial review. By completing the review period before it is possible for stakeholders to read the documents and provide comments, the Authority is also precluding meaningful review following the final EIR/EIS being issued. Rigid adherence to the 45 or 60 day periods mentioned in Guidelines § 15105(a) therefore guarantees denial of due process for projects of the scope of this EIR/EIS.

The dignity interest weighs heavily in favor of an extension of time. It is inconceivable that the public could be charged with reading and commenting on the EIR/EIS, only to find out that it is impossible to do so because there is insufficient time to read the documents in this case.

Finally, the governmental interest in providing additional time is identical to the private interests. The Legislature has already made this determination by stating that the public is entitled to meaningful and adequate review, and putting in place an entire scheme to ensure such review occurs. The government has a significant interest in ensuring that its own statutes and regulations are followed, especially when no fiscal or administrative burdens are involved beyond the passage of time.

As the Federal Railroad Administration is the lead Federal agency designated on the HSR project, the purpose and requirements of the National Environmental Policy Act (NEPA) are also at issue. The purpose of NEPA review corresponds to CEQA review. Congress has declared, "... it is the continuing policy of the federal Government, ... in cooperation with State and local governments, and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance … to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans." (42 U.S.C. § 4331). Therefore the purposes of NEPA also support the extension requested herein.

2. Federal Constitutional Issues

Due process under the federal constitution requires that an entitlement exist under state law. There can be no question that the Legislature has entitled the public to a meaningful and adequate review of the EIR/EIS documents through the CEQA statutes and regulations. It is merely a question of what process is due.

Pursuant to Mathews v. Eldridge, 424 U.S. 319 (1976), to determine what process is due, the state should look at the private interests involved, the risk of an erroneous deprivation and value of additional safeguards, as well as the governmental interest.

Again, the public's interest is high; the public is entitled to a proper review under CEQA but such a review cannot be met in such a short and arbitrary time frame currently established by the Authority. Denial of that proper review, in turn, prejudices the rights of potential litigants who are subject to the exhaustion doctrine. Denial of adequate, proper, and meaningful review stacks the deck in favor of the project proponent, who here is also the reviewing agency. This conflict of interest between the duty of full, objective CEQA review and support of the HSR project is clearly brought out by the denial of a meaningful adequate public review and comment period.

The risk that rights may be erroneously deprived is high. By the Authority arbitrarily setting the review period in this circumstance such that it is impossible for the public to respond, a deprivation is not only possible, but is a certainty where no due process was given in setting the initial review period. As the Authority knows, EIR/EIS challenges must be made on comments lodged during the review period. What the Authority has done is present to the public a large volume of documents such that there is no possibility for all necessary comments to be included in the record, effectively precluding a proper legal challenge to the EIR/EIS documents following a finalization of those documents, and denying access to the courts.

Finally, the governmental interest, as under the state due process requirements, is in concurrence with the private interest. Again, the Legislature has already made this determination by stating that the public is entitled to meaningful and adequate review, and putting in place an entire scheme to ensure such review occurs. The government has a significant legitimacy interest in ensuring that its own statutes are followed, especially when no fiscal or administrative burdens are involved.

Here, there has been no due process as to the setting of this review period. The setting of this review period for the same length for a local ordinance reflecting plastic bag usage, without an explanation or an opportunity to be heard and challenge the determination, violates the Fourteenth Amendment of the United States Constitution, as well as the California Constitution. As has been said many times, the fundamental requisite of due process of law is the opportunity to be heard, and

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that right has little reality or worth unless the public is informed and can choose for iteself whether to participate. Mullane v. Central Hanover Bank & Trust Co., 339 U.S. 306, 314 (1950). In this case, the public cannot know, and can never know under the limited review period what position and comments it should make relating to the EIR/EIS, had it been afforded an adquate review period.

"Due process is flexible and calls for such procedural protections as the particular situation demands." Mathews v. Eldridge, 424 U.S. 319, 334. In this situation, due process calls for a reasonable number of days to review the EIR/EIS and supporting documents. We ask for at least a 180 day review period, for all the reasons stated.

Very truly yours,

GRISWOLD, LaSALLE, COBB,
DOWD & GIN, L.L.P.

By: _____
ROBERT M. DOWD

APPENDIX A
LIST OF REPORTS
COMPRISING FRESNO TO BAKERSFIELD
DRAFT EIR/EIS
AND SUPPORTING DOCUMENTS

Below is a list of the documents posted at the HSRA web page for the Fresno to Bakersfield EIR/EIS (nos.1-3) and related documents (nos. 4-43), with their page counts. The purpose of the compilation is to show the inequity and lack of due process afforded by the 60 day public review and comment period. Note that item nos. 4 through 43 are posted at the HSRA web page for the Fresno to Bakersfield EIR/EIS and are referred to in the EIR/EIS. However, items nos. 4-43 are not included in the EIR/EIS and are not provided on the EIR/EIS cds given out by the HSRA office in Hanford. Also, items nos. 4-43 are not available with the hard copy EIR/EIS available for public review at the HSRA office in Hanford and at the Kings County Library in Hanford.

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25.	Aesthetics and Visual Resources Technical Report 7/11	218
26.	Preliminary Jurisdictional Waters and Wetlands Delineation Report Text Volume 1 of 4	128
27.	Preliminary Jurisdictional Waters and Wetlands Delineation Report Appendices A through G, I and J, Volume 2 of 4	264
28.	Preliminary Jurisdictional Waters and Wetlands Delineation Report Appendix H Special Aquatic Resources Survey Results Figures, Volume 3 of 4	528
29.	Potential Jurisdictional Status of Aquatic Features in the Wetland Study Area Volume 4 of 4 6/11	52
30.	Checkpoint A	28
31.	Checkpoint A Letter 12/22/10	2
32.	Checkpoint B Summary Report 3/11	112
33.	Checkpoint B Appendix D Clean Water Act Section 404 Applicability Criteria, Union Pacific Railroad Alignment Alternative 3/11	138
34.	Checkpoint B Appendix E Summary Presentation of Environmental Resources and Constraints for the BNSF, UPRR and BNSF Avoidance Alternative Alignments 3/11	92
35.	Checkpoint B Appendix E-1a BNSF Alternative Alignment	262
36.	Checkpoint B Appendix E-1b UPRR Alternative Alignment	260
37.	Checkpoint B Appendix E-1c 3/11	260
38.	Checkpoint B Appendix E-2a Sheets 1-7	7
39.	Checkpoint B Appendix E-2b Sheets 1-7	7
40.	Checkpoint B Appendix E-2c Sheets 1-7	7
41.	Checkpoint B Letter 4/21/11	62
42.	Checkpoint B Letter 6/2/11	24
43.	Capital Cost Estimate Report 7/11	198
44.	**TOTAL PAGES**	**16,953**

Response to Submission BO116 (Robert Dowd, J.G. Boswell Company (Atty. for), Griswold LaSalle Cobb Down & Gin L.L.P (GLCDG), September 12, 2011)

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Refer to Standard Response FB-Response-GENERAL-07.

Submission BO117 (Raymond Carlson, J.G. Boswell Company (Atty. for), Griswold LaSalle Cobb Down & Gin L.L.P (GLCDG), October 13, 2011)

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October 13, 2011

VIA FAX 916-322-0827 & U.S. MAIL

Board of Directors
CALIFORNIA HIGH SPEED
RAIL AUTHORITY
770 L Street, Suite 800
Sacramento, CA 95814-3359

Re: The California High Speed Train Project Draft EIR/EIS
Fresno to Bakersfield Section
Comments of J.G. Boswell Company

Dear Chairman and Members of the Board:

This letter contains comments additional to those included in our October 12, 2011, letter concerning the above Project. As set out in that letter as well as our letters dated September 8, 2011 and September 14, 2011, and by numerous other parties[1] requesting an extension of the October 13, 2011 comment deadline, the DEIR/DEIS for the Fresno to Bakersfield section of the California High Speed Train Project is so ponderous, at 17,000 pages,[2] plus another 24,000 pages for the Merced to Fresno section,[3] that the review period ending October 13, 2011 is not legally adequate and denies due process to interested parties seeking to meaningfully review and comment on the DEIR/DEIS.

What follows are a few additional comments we would like to submit before close of the October 13, 2011 comment period. In submitting these comments, we in no way concede the legal adequacy, sufficiency or legitimacy of the August 15 to October 13 comment period. We reserve

[1]See Appendix A for list of persons and entities requesting an extension of the comment period.

[2]See Appendix B for list of documents and length.

[3]See Appendix C for list of documents and length.

the right to submit further comments later, as the October 13, 2011 is an arbitrary and capricious deadline that is not in compliance with CEQA, the CEQA Guidelines or the requirements of due process.

Comments Regarding Section 3.6: Public Utilities and Energy

CEQA requires that project impacts be measured against a current baseline at the time the NOP is published or if no NOP is published, at the time the environmental analysis is commenced. See CEQA Guidelines § 15125(a). The DEIR/DEIS claims it complies with Sunnyvale West Neighborhood Assn. v. City of Sunnyvale (2010) 190 Cal.App.4th 1351. See DEIR/DEIS at p. 3.6-39. However, the Sunnyvale West Neighborhood Assn. case specifically invalidated Sunnyvale's EIR for using a future baseline date rather than the CEQA-required date. See 190 Cal.App.4th at 1392. 2035 as the baseline date for evaluation of energy impacts violates CEQA and renders the DEIR/DEIS inadequate. The energy analysis must be prepared using a current base year in a revised and recirculated DEIR/DEIS.

DEIR/DEIS p. 3.6-39 states that although the HST would result in an increase in electricity demand, it would reduce the energy demands from automobile and airplane travel, resulting in an overall beneficial effect on statewide energy use. This statement is not supported by substantial evidence, nor is any supportive substantial evidence offered for Table 3.6-12 on page 3.6-40 immediately following. Even if this speculation had credence at a statewide level, the DEIR/DEIS does not discuss impacts from localized energy demand caused by the HST. There will inevitably be impacts to the localized electrical transmission grid throughout the Central Valley; however, it is unclear from the DEIR/DEIS whether existing infrastructure exists to handle the localized increase in electrical loads. Failure to disclose such impacts, let alone to analyze them, renders the DEIR/DEIS inadequate and requires that a revised DEIR/DEIS be prepared and circulated.

DEIR/DEIS p. 3.6-49 discloses the need to construct transmission lines between the TPSS stations and existing substations; however, there is no mention of the magnitude of transmission lines to be constructed nor is additional information provided to determine whether the construction of an unknown number of transmission lines would have any environmental impacts. As such, the DEIR/DEIS has failed to analyze the 'whole of the action' and must be revised to do so.

These comments are founded on the principle that an EIR acts as an informational document identifying potentially significant impacts of a project, as well as alternatives and mitigation measures necessary for informed decision-making (Pub. Res. Code § 21002.1), and that an EIR's findings and conclusions must be supported by substantial evidence. Laurel Heights Improvement Ass'n v. Regents of the University of California (1988) 47 Cal.3d 376. An adequate EIR "must be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences" and "must include detail sufficient to enable those who did not participate in its preparation to

Submission BO117 (Raymond Carlson, J.G. Boswell Company (Atty. for), Griswold LaSalle Cobb Down & Gin L.L.P (GLCDG), October 13, 2011) - Continued

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understand and to consider meaningfully the issues raised by the proposed project." Id. The DEIR/DEIS does not meet this threshold. Accordingly, the DEIR/DEIS is not adequate for certification and cannot be approved at this time.

One of the principle tenets of land use planning as well as CEQA is the public's right to participate in the process. See, 14 Cal. Code Regs. §15201 (citing Environmental Defense Fund v. Coastside County Water District (1972) 27 Cal. App. 3d 695; Bakersfield Citizens for Local Control v. City of Bakersfield (2004) 124 Cal. App. 4th 1184; ("[p]ublic participation is an 'essential part of the CEQA process.'") (citing to Laurel Heights Improvement Ass'n v. Regents of Univ. of California (1993) 6 Cal. 4th 1112, 1123; see also, Pub. Res. Code §21003(b); CEQA Guidelines §15002(a)(1), (a)(4), and (j); §15003(b), (c), (d), and (e). In fact, persons whose interests may be adversely affected by a land use decision enjoy due process protection. See e.g., Horn v. County of Ventura (1979) 24 Cal. 3d 605, 617. Interested persons, therefore, are entitled to comment, present evidence, and otherwise add to the record of proceeding. The availability of evidence for review and the ability to controvert evidence at an administrative hearing are *fundamental* to the due process rights of interested parties, and land use decisions based on evidence "of which the parties were not apprised and which they had no opportunity to controvert..." amounts to a denial of a fair hearing. English v. City of Long Beach (1950) 35 Cal. 2d 155, 158-159; Clark v. City of Hermosa Beach (1996) 48 Cal.App. 4th 1152, 1171.

Likewise, under CEQA the public has the right "to be informed in such a way that it can intelligently weigh the environmental consequences of any contemplated action and have an appropriate voice in the formulation of any decision." Environmental Planning and Information Council v. County of El Dorado (1982) 131 Cal.App. 3d 350, 354. Allowing the Authority to circulate environmental documents based on only a 15% level project conception and design guarantees nondisclosure of impacts on a massive scale. Nor may the Authority, which here is not only the agency approving the project but also the project proponent, belatedly revise the environmental analysis or to introduce new evidence outside the scope of public review. Accordingly, any further evidence from the Authority should either be rejected or provide a sufficient opportunity for the public to review and comment on such evidence in conformity with principles of CEQA and due process. At a minimum the comment period must be re-opened to allow an adequate time to comment on all documents released for public review in connection with the Project.

As set forth above and in prior comments, the DEIR/DEIS omits a substantial amount of critical information thereby thwarting informed decision-making. CEQA "provides that 'noncompliance with the information disclosure provisions of this division which precludes relevant information from being presented to the public agency . . . may constitute a prejudicial abuse of discretion . . . regardless of whether a different outcome would have resulted if the public agency had complied with those provisions.'" Pub. Res. Code §21005(a). Pursuant to Rural Landowners Association v. Lodi City Council (1983) 143 Cal.App.3d 1013, 1023, the omission of such

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information is a prejudicial legal error and the DEIR/DEIS must be revised and recirculated prior to certification or project approval.

Very truly yours,

GRISWOLD, LaSALLE, COBB, DOWD & GIN, L.L.P.

By: _____
RAYMOND L. CARLSON

cc: Federal Railroad Administration
Dennis Tristao

Submission BO117 (Raymond Carlson, J.G. Boswell Company (Atty. for), Griswold LaSalle Cobb Down & Gin L.L.P (GLCDG), October 13, 2011) - Continued

APPENDIX A
REQUESTS FOR EXTENSION OF COMMENT PERIOD

The following is a list of extension requests made after the 15 days were added on August 25, 2011. All request a 6 month comment period, to mid February 2012, unless otherwise noted. Also, most but not all parties make their requests applicable to both the Merced -- Fresno and Fresno – Bakersfield sections of the Project.

	REQUESTING PARTY	DATE OF REQUEST
1.	Rep. Costa (full 90 day comment period).	9/6/11
2.	J.G. Boswell Company	9/8/11
3.	Kings County Farm Bureau (not on letterhead).	9/9/11
4.	Nisei Farmers League.	9/12/11
5.	Wasco-Shafter Agricultural Group (30 day extension to the 60).	9/13/11
6.	Tulare Lake Basin Water Storage District.	9/13/11
7.	Citizens for California High-Speed Rail Accountability (CCHSRA).	9/14/11
8.	Community Coalition on High-Speed Rail (CC-HSR).	9/14/11
9.	California Cotton Growers Association.	9/14/11
10.	California Cotton Ginners Association.	9/14/11
11.	Western Agricultural Processors Association.	9/14/11
12.	Chowchilla Water District.	9/15/11
13.	Reps. McCarthy, Denham, Nunes (30 days extension to the 60)	9/15/11
14.	Fresno County Farm Bureau.	9/19/11
15.	California Floral Council (w/o signature, not on letterhead).	9/19/11
16.	National Hmong American Farmers (w/o signature, not on letterhead).	9/19/11
17.	African-American Farmers of California (w/o signature, not on letterhead)	9/19/11
18.	Endangered Habitats League (w/o signature, not on letterhead)	9/19/11
19.	California Farm Bureau Federation.	9/21/11
20.	The Nature Conservancy	9/21/11
21.	Center on Race, Poverty & the Environment.	9/21/11
22.	Planning and Conservation League	9/22/11
23.	American Farmland Trust.	9/27/11
24.	Defenders of Wildlife.	9/27/11
25.	Kings County Board of Supervisors.	9/27/11
26.	Church and Dwight Company, Inc	9/28/11
27.	City of Hanford.	10/1/11
28.	Riverdale Public Utility District.	10/3/11
29.	Kings County Water District	10/6/11

APPENDIX B
LIST OF REPORTS
COMPRISING FRESNO TO BAKERSFIELD
DRAFT EIR/EIS
AND SUPPORTING DOCUMENTS

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APPENDIX C
LIST OF REPORTS
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AND SUPPORTING DOCUMENTS

DEIR/DEIS - MERCED to FRESNO SECTION

EDUCATIONAL MATERIALS

NOTICES

VOLUME I: REPORT

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Submission BO117 (Raymond Carlson, J.G. Boswell Company (Atty. for), Griswold LaSalle Cobb Down & Gin L.L.P (GLCDG), October 13, 2011) - Continued

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Refer to Standard Response FB-Response-GENERAL-01, FB-Response-GENERAL-07, FB-Response-GENERAL-22, FB-Response-PU&E-03.

The Revised Draft EIR/Supplemental Draft EIS presents a discussion of electricity generation and demand (Section 3.6.4). The EIR/EIS states that power would be supplied by Pacific Gas and Electric Company (PG&E) transmission lines (Section 2.2.6). The EIR/EIS identifies both new and modified electrical infrastructure for the project, including traction power substations (TPSS), switching and paralleling stations, and emergency power supplies, including the typical size of facilities. The text identifies the locations for new and modified facilities. The EIR/EIS also described the location for transmission line upgrades in the text and footprint in Vol. 2-B. As the design for electrification of the system is engineered in greater detail, PG&E will review the need to design and implement changes to their transmission lines or to construct new or modified facilities at that time. The Authority will assist utility providers in applying for a permit from the CPUC under CPUC General Order 131-D, including the need for any additional environmental review necessary for transmission line relocation or extension, or other new or modified facilities, and any localized increase in electrical loads identified as part of the more detailed design.

The EIR/EIS discusses the number of plane flights that are anticipated to decrease under each of two fare scenarios (Appendix 3.6-A). CEQA Guidelines at Section 14384 (b) state that substantial evidence shall include facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts. CEQA Guidelines Section 15145 state that if, after thorough investigation, a Lead Agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact. The comment regarding future airline fare, and revenues as a result of the project are highly speculative and in the CEQA/NEPA context, are not impacts to the natural or human environment.

Since the HST project would not commence operation for almost 10 years and would not reach full operation for almost 25 years, use of only existing conditions as a baseline for energy impacts would not be useful for comparison. Therefore, the energy analysis uses a dual baseline approach. That is, the HST project's energy impacts are evaluated both against existing conditions and against background (i.e., No Project) conditions as

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they are expected to be in 2035. Results for both baselines are presented. This approach complies with CEQA (see Woodward Park Homeowners Assn v. City of Fresno [2007], 150 Cal.App.4th 683, 707, Sunnyvale West Neighborhood Assn. v. City of Sunnyvale [2010], 190 Cal.App.4th 1351, and Neighbors for Smart Rail v. Exposition Metro Line Construction Authority [2012], 204 Cal.app.4th 1480), by informing the public of potential project impacts under both baselines, but focuses the analysis on the baseline analysis more likely to occur. Court decisions indicate that a projected future baseline is an appropriate means to analyze environmental effects of a long-term infrastructure project, when that future baseline is supported by substantial evidence (Section 3.6.5.1 of the EIR/EIS).

The EIR/EIS presents data from computer models and independent projections for energy consumption based on current conversion factors, ridership forecasts, trainsets, and vehicle miles traveled. It indicates an increase in electric energy consumption of approximately 28,404 MMBtu per day, or less than 1.5% of statewide consumption under the 50% fare scenario and less than 1% of statewide consumption under the 83% fare scenario. The data support the conclusion that HST System would be an energy-efficient mode of transportation and would serve to decrease overall per-capita energy consumption by providing a travel alternative that is less energy-intensive than the personal vehicles and commercial air flights that would be used under the No Project Alternative; energy consumption would increase at a slower rate than under No Project Alternative conditions. In addition, the Statewide Program EIR/EIS indicates that the California HST Project could result in a total energy savings of 25% over conditions without the project.

CEQA Guidelines at Section 14384 (b) state that substantial evidence shall include facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts. CEQA Guidelines Section 15145 state that if, after thorough investigation, a Lead Agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact. The comment regarding future airline fares and revenues as a result of the project are highly speculative and in the CEQA/NEPA context, are not impacts to the natural or human environment.

The project would increase electricity demand. According to the Statewide Program

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EIR/EIS (Authority and FRA 2005), the HST would increase peak electricity demand on the state's generation and transmission infrastructure by an estimated 480 MW in 2020. With the assumption that this peak demand would be evenly spread throughout the system, the Fresno to Bakersfield Section would require approximately 78 MW of additional peak capacity. Summer 2010 electricity reserves were estimated to be between 27,708 MW for 1-in-2 summer temperatures and 18,472 MW for 1-in-10 summer temperatures (Pryor et al. 2010). The projected peak demand of the HST is not anticipated to exceed these existing reserve amounts. Although supplies for 2035 cannot be predicted, given the planning period available and the known demand from the project, energy providers have sufficient information to include the HST in their demand forecasts. The project's effect on peak electricity demand would have negligible intensity under NEPA, and would be a less-than-significant impact under CEQA. Even if the 100% renewable policy is not fully successful, operational energy consumption effects would have negligible intensity under NEPA, and in a less-than-significant impact under CEQA.

The EIR/EIS states that power would be supplied by Pacific Gas and Electric Company (PG&E) transmission lines (Section 2.2.6). The EIR/EIS identifies both new and modified electrical infrastructure for the project, including traction power substations (TPSS), switching and paralleling stations, and emergency power supplies, including the typical size of facilities. The text identifies the locations for new and modified facilities. The EIR/EIS also described the location for transmission line upgrades in the text and footprint in Vol. 2-B. As the design for electrification of the system is engineered in greater detail, PG&E will review the need to design and implement changes to their transmission lines or to construct new or modified facilities at that time. The Authority will assist utility providers in applying for a permit from the CPUC under CPUC General Order 131-D, including the need for any additional environmental review necessary for transmission line relocation or extension, or other new or modified facilities, and any localized increase in electrical loads identified as part of the more detailed design.

There is no right to a formal administrative hearing for the review of the environmental impacts, but the Authority held scoping meetings throughout the project area to invite public participation (see Table 7-1 in the EIR/EIS).

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The HST would be a "design-build" project. That is, the project design would be completed by the contractor who would be chosen to build the project. The Authority and FRA have prepared a project-specific EIR/EIS analyzing the potential environmental consequences of a refined set of alternative corridor alignments and stations along this section based on that level. This project EIR/EIS contains significantly more detail than was available at the first-tier Program EIR/EIS. At the time the prior Draft EIR/EIS was released for public review in August 2011 (Authority and FRA 2011a), the Fresno to Bakersfield Section had reached the 15% level of design. The Final EIR/EIS represents a 15-30% level of design. In larger transportation infrastructure projects, consistent with both CEQA and NEPA, the environmental analysis process occurs before completion of final design, and this is common practice in projects using a design/build process for construction.

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October 12, 2011

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Re: The California High Speed Train Project Draft EIR/EIS
Fresno to Bakersfield Section
Comments of J.G. Boswell Company

Dear Chairman and Members of the Board:

This letter contains the comments of J.G. Boswell Company on the Draft EIR/EIS ("DEIR/DEIS") for the Fresno to Bakersfield Section of the California High Speed Train ("HST") Project ("Project").[1] The sponsoring agency for the Project is the California High Speed Rail

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[1]There is ambiguity and uncertainty in the Project description. The Authority released the DEIR/DEIS for the Merced to Fresno section simultaneous with the Fresno to Bakersfield DEIR/DEIS. Each of these sections in itself constitutes a project for CEQA and NEPA purposes, but both are components of the larger state-wide high-speed train project. Proposotion 1A, approved by voters at the November 2008 general election, enacted Chapter 20 of Division 3 of the Streets and Highways Code, commencing with § 2704. Section 2704.04(a)(3)(A)-(G) authorized seven "high-speed train corridors" which do not include a separate Merced to Bakersfield "corridor" or a Merced to Fresno "corridor" or a Fresno to Bakersfield "corridor." Stand alone Merced-Fresno or Fresno-Bakersfield sections at most might be considered "usable segment[s]" under § 2704.01(g), but are not authorized for separate funding under § 2704.04(a)(3). Moreover a usable segment must be a portion of a corridor which in turn is a portion of the high-speed train system. If the Authority is proposing separate Merced-Fresno or Fresno-Bakersfield as (potentially) stand alone "sections", these projects are not legally fundable

Authority ("Authority"), created by the Legislature in 1996. See Cal. Public Resources Code §§ 18500 et seq., § 185020(a).

The DEIR/DEIS and accompanying technical appendices and memoranda are lengthy (17,000 pages). The Authority allowed at first only 45, and later, 60 days to review and comment on these environmental documents. This is a legally inadequate time period for review and comment on these environmental documents. The Merced to Fresno DEIR/DEIS and supporting appendices and memoranda add another 31,000 pages. The public is expected to meaningfully review and comment on 48,000 pages of documents describing the largest public works project in the history of the San Joaquin Valley, all in 60 days.

I. INTRODUCTION.

J.G. Boswell Company farms land in the vicinity of Corcoran, CA, and owns and operates agricultural processing facilities in Corcoran along both sides of the existing Burlington Northern Sante Fe ("BNSF") tracks. These facilities will be severely adversely impacted if not rendered unusable if the Corcoran Elevated Alignment or the BNSF Alignment is chosen by the Authority. These impacts are largely undisclosed in the DEIR/DEIS, and, given the lack of specificty of the DEIR/DEIS as a whole, this lack of disclosure is not surprising. The DEIR/DEIS itself admits that it is only a 15% concept design.

This lack of specificity hampers the DEIR/DEIS throughout and renders it an inadequate disclosure document. The impacts pointed out in this letter were derived by taking the 15% level detail presented on the appropriate map sheets and drawings in Volume III of the DEIR/DEIS, then using other tools (GIS, AutoCad, etc.) and data sets (legal descriptions, surveys, etc.) to attain a better understanding of the relationship between the actual footprint of the project works relative to the location of existing facilities and infrastructure and the impacts and encroachments of the former on the latter.

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with bonds sold under the authority of Proposition 1A. There is no authority under Proposition 1A to build stand alone segments or sections of "high speed train corridors" without building the entire California High Speed Train Project of which the recognized corridors are a part. Therefore the ambiguity for purposes of the project description exists with respect to whether the "Project" is the full HSR state wide project (as suggested by the title of the DEIR/DEIS) or as a stand alone project or segment or section which cannot be funded as such with Proposition 1A bond funds. This ambiguity in the project description results in the DEIS/DEIR failing to adequately and consistently describe the project from which flows the deficient disclosure of impacts and ultimately the legal insufficiency of the DEIR/DEIS.

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J.G. Boswell previously submitted its letter dated September 8, 2011[2] explaining that the 60 day comment period was inadequate and illegal under CEQA, the CEQA Guidlines, and the requirements of due process. A further letter dated September 14, 2011 pointed out that the unannounced cancellation of the Board's scheduled September 22, 2011 meeting was a further deprivation of due process as well as denial of interested parties' First Amendment petition rights. A California Public Records Act request dated September 16, 2011 was submitted for all documents relating to the cancellation of the September 22, 2011 meeting.[3] The Authority did not reply to the PRA request within the required time, nor make any documents available for inspection or copying.

Due to lack of a legally adequate time for review and comment on the DEIR/DEIS, J.G. Boswell Company reserves the right to supplement these comments after October 13, 2011.[4]

The Authority and the Federal Railroad Administration agreed on a 45 to 60 day comment period on the DEIR/DEIS in the Grant/Cooperative Agreement FR-HSR-0009-10-01-01

[2]All documents referred to, whether enclosed with this letter or not, are designated as part of the record of proceedings in this matter, and are intended for inclusion in the administrative record in any later proceedings that may be had.

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[3]Cancellation of the meeting was in violation of the Bagley-Keene Open Meeting Law, Government Code §§ 11120-11132. The Act provides for regular, special, and emergency meetings, and for adjournment of regular and special meetings. Government Code § 11128.5. The Act does not provide for the "cancellation" of meetings and certainly does not provide for the cancellation of meetings sua sponte by the Board's staff, by any individual Board member or by the Board without taking such action at a properly noticed meeting. These matters are pointed out to show that during the crucial review and comment phase of the DEIR/DEIS process, the Authority is not proceeding in the manner required by law. In this case the September 22, 2011 meeting was simply and without notice deleted from the list of scheduled meetings, all in the best Orwellian fashion. In contrast the January 13, 2011 meeting remains listed but with a line drawn through it and the word "Canceled" next to it.

[4]As a further example of denial of due process and a legally inadequate time to comment, J.G. Boswell Company received a letter dated August 22, 2011 from James Labanowski of the URS/HMM/ARUP Joint Venture. The letter was in connection with planned utility relocation caused by impacts on existing utility infrastructure by the HST. The letter requested a response within 15 days (by September 6, 2011) of detailed information confirming the location, size and depth of utilities within map segments furnished with the letter. In other words the Authority's consultant was requesting the parties impacted by the Project to do its (the consultant's) work at the same time as the party was attempting to review and prepare comments on massive environmental documents totalling some 17,000 pages for the Fresno-Bakersfield section alone.

Amendment No. 1 dated December 2010. See Id. at p. 19. However, the legally adequate review period required by CEQA, the CEQA Guidelines and due process cannot be a matter of such an agreement. The requirement arises under requirements that exist extrinsic to the contract.

The extension of the comment period from 45 to 60 days on August 25, 2011 apparently was an act of the Authority's staff. The agenda for the August 25, 2011 Board meeting did not include extending the comment period. At that meeting, staff presented its "Update on Business Plan and Funding Plan." At that time, staff reported it intended to submit the draft Business Plan to the Board and to release the Business Plan for public review on October 14, 2011.

The Authority could not allow comments beyond October 13, 2011 because a longer comment period would expose its Business Plan for public review, comment and criticism. The economic viability of the Project has been seriously questioned. See California State Auditor, High-Speed Rail Authority: It Risks Delays or an Incomplete System Because of Inadequate Planning, Weak Oversight, and Lax Contract Management (April 2010 Report) at 19-24; Enthoven, et al., Revisiting Issues in the October 2010 Report: The Financial Risks of California's Proposed High-Speed Rail Project-The 2011 Edition (September 14, 2011) passim. The economic viability of the Project is tied to its alleged benefits such as creating 450,000 jobs, but not being a growth inducing project, merely offsetting traffic from clogged roads to the HST, etc. Extending the comment period beyond October 13 would permit commenters to criticize the Business Plan and the legitimacy and efficacy of the Project ("the project purpose and need").

The claimed benefits of the Project are all presented on a statewide basis rather than a section by section basis. These claimed benefits will be used to justify an elaborate set of Statements of Overriding Considerations that will be submitted under CEQA Guidelines 15093. SOCs will be necessary because of the numerous significant impacts which cannot be mitigated to a level of less than significant. See, e.g., DEIR/DEIS Table S-3. The SOCs will not be made available for prior review, comment and potential revision. The procedure in adopting the SOC's is entirely lacking in any semblance of due process. The Authority is shaping the DEIR/DEIS public review and comment process to be as inconvenient to the public as possible. Thus it continues to insist on the October 13, 2011 comment deadline date and has stated it will not review any comments submitted after that date.

The extremely restricted review and comment process cause the remainder of these comments to necessarily[5] focus on the localized impacts to J.G. Boswell Company's facilities

[5]It was not possible in the time available to engage suitable outside consultants to address the more general aspects of the DEIR/DEIS. Such consultants are not retained nor is their work performed in the severely limited time that was available. A panel of experts cannot be assembled in an instant. The focus had to be on the Company's activities and facilities along the

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located in Corcoran, CA. Reference is also made on occasion to impacts to the community and City of Cororan. Attention is given to impacts that are ignored, unrecognized and undisclosed. These defects in the analysis in no way relieve the Authority of its duty to mitigate these impacts.

The discussion is organized as follows:

Part II: Alternative C1 - Corcoran Elevated Alignment--SEE MAP ENCLOSURE #1
Part III: Alternative C2 - Corcoran Bypass Alignment--SEE MAP ENCLOSURE #2
Part IV: Alternative C3 - BNSF Alignment--SEE MAP ENCLOSURE #4

II. ALTERNATIVE C1 - THE CORCORAN ELEVATED ALIGNMENT WILL HAVE SIGNIFICANT NEGATIVE ADVERSE IMPACTS TO THE AGRICULTURAL PROCESSING FACILITIES LOCATED ON BOTH SIDES OF THE EXISTING BNSF TRACKS. SEE MAP ENCLOSURE #1.

J.G. Boswell Company owns and operates various agricultural processing facilities that are significantly and negatively impacted by the HST Corcoran Elevated Alternative Alignment. Adjacent or in close proximity to the Corcoran segment of the Corcoran Elevated Alternative are office facilities, a vegetable oil processing mill, cotton gins, seed treatment facilities, seed storage facilities, warehouse facilities, cotton bale and cotton module storage yards, irrigation pumps, water conveyance structures, and various other agricultural commodity processing operations plus shops, vehicle storage sites, fueling locations, etc. In addition to generating substantial economic activity, these operations provide significant employment for the general region. The noise, aesthetics, and impacts to existing structures and employees are adverse and substantial.

Each of the facilities are subject to various regulatory programs administered by multiple state and federal agencies, including but not limited to, state and federal occupational health and safety standards, air quality, water quality, storm water, and other requirements. Many of the permits issued to specific facilities would be affected by impacts from the Corcoran Elevated Alternative on the respective facility (e.g., closure, relocation, etc.). One of the main problems encountered was lack of detail in the alignments. Addressing the impacts of the Corcoran Elevated Alternative utilizing the DEIR/DEIS conceptional level (15 percent) design plans creates a significant and burdensome requirement. The lack of detail forced our staff to provide data detailing our site specific utilities, pipelines, conveyance structures, traffic patterns, and structures.

Limited and legally indequate time was provided to review the DEIR/DEIS and the supporting technical reports and alignments. Therefore, in the limited time available, J.G. Boswell Company's efforts concentrated on the impacts identified within selected sections of the

various alternative alignments in the Corcoran area.

DEIR/DEIS.[6] Due to the insufficient time for the comment period, our efforts concentrated on reviewing the following sections:

1. Noise and Vibration
2. Socioeconomics, Communities, and Environmental Justice
3. Volume III: Section A - Alignment Plans Part 1

Noise and Vibration Section 3.4

J.G. Boswell Company developed scaled renditions of the agricultural processing facilities in order to analyze the impacts of the Corcoran Elevated Alternative on the industrial facilities and identify facilities that are impacted by the project. Also reviewed were traffic circulation patterns within the Corcoran Elevated Alternative Alignment on operations and potential impacts. Based on the Company's experience in operating these facilities, the impacts are significant and adverse.

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The DEIR/DEIS Section 3.4 is deficient in addressing the noise and vibration impacts to J.G. Boswell Company's agricultural processing facilities. The noise impacts to employees at industrial operations are represented by only one monitoring site study. The additional noise and vibration from the HST is not specifically addressed; there is only a generalized analysis to residences and sensitive receptors. The combination of noise and vibration from current processes, the existing rail, and HSR would be adverse and substantial. Section 3.4 states in part: "There would be substantial effects under NEPA and significant impacts under CEQA for many of the receivers along the Corcoran Elevated Alternative Alignment, before consideration of mitigation. Table 3.4-15 lists the number of sensitive receptors along the Corcoran Elevated Alternative that may receive moderate or severe noise impacts from operation of the proposed project. There are 201 additional severe noise impact receivers and 131 additional moderate noise impact receivers with this alternative, compared with those of the corresponding portion of the BNSF Alternative. Appendix 3.4-A Noise and Vibration Tables 6 and 7 (pp. 3.4-A-45, 46) list the potential noise impacts under the Corcoran Elevated Alternative Alignment without mitigation for the design year (2035) at each of the locations where existing noise measurements were conducted. Additional site specific noise and vibration studies are recommended to be conducted analyzing the short and long term impacts to existing structures including noise level exposure to employees at the J.G. Boswell Company's agricultural processing facilities from the Corcoran Elevated Alternative Alignment. This manner of procedure constitutes impermissible deferred mitigation.

[6]The legally inadequate comment/review period also precluded being able to assemble the consultants and experts who could have materially assisted the review. There simply was not enough time to engage consultants or for them to do substantive work in terms of reviewing and commenting on these massive documents (17,000 pages for Fresno-Bakersfield and 31,000 for Merced-Fresno).

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The NEPA Impacts Summary and CEQA Significance Conclusions described in Sections 3.4.7 and 3.4.8 are deficient due the absence of analyzing the site specific effects of noise and vibration on the J.G. Boswell Company's agricultural processing facilities, including structures and employees.

Summary DEIR/DEIS Section 3.4 Noise and Vibration

Due to insufficient time to address the DEIR/DEIS Noise and Vibration not all deficiencies have been addressed in detail, but suffice it to say that the above significant deficiencies may be added too or amended at a later date. The NEPA Impacts Summary and CEQA Significance Conclusions described in Sections 3.4.7 and 3.4.8 are deficient due the absence of analyzing the site specific effects of noise and vibration on the J.G. Boswell Company's agricultural processing facilities, including structures and employees.

Section 3.12 Socioeconomics, Communities, and Environmental Justice

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DEIR/DEIS Section 3.12 is deficient in addressing Disruption or Division of Existing Communities from the Corcoran Elevated Alternative Alignment. The DEIR/DEIS states "The displacements, along with the increased noise and visual impacts associated with the HST project, could affect social interactions, community cohesion, and perceived quality of life in Corcoran. This would be a moderate to substantial effect under NEPA, but a less-than-significant impact under CEQA, because of the presence of an existing transportation corridor and availability of relocation resources in the community." The statement that these impacts are less than significant under CEQA due to "an existing transportation corridor and availability of relocation resources" is misleading. J.G. Boswell Company disagrees that the additional noise will not create a significant impact under CEQA. The noise impacts on employees and office personnel have not been studied to account for the additive noise effect of both HST operation and that of the existing rail road. This must be analyzed further to understand the additional mitigation required. To state that the ability of relocation resources will suffice as adequate mitigation for J.G. Boswell Company and the Corcoran community on the loss of high value agricultural processing facilities is misleading and inappropriate. Certain facilities, for instance the seed warehouse and storage tanks adjacent to Whitley Avenue and the scale house and unloading facilities at the east townsite agricultural processing facilities are subject to potential closure under the Corcoran Elevated Alternative Alignment. The NEPA Impacts Summary and CEQA Significance Conclusions described in Sections 3.12.7 and 3.12.8 are deficient due the absence of identifying J.G. Boswell Company's agricultural processing facilities as an affected business subject to closure and relocation.

Summary EIR/EIS Section 3.12 Socioeconomics, Communities, and Environmental Justice

Due to insufficient and legally inadequate time to address the DEIR/DEIS Socioeconomics, Communities, and Environmental Justice on the agricultural processing facilities, not all deficiencies

have been addressed in detail. Suffice it to say that the above significant deficiencies may be added too or amended at a later date. Each of the aforementioned deficiencies are significant adverse impacts. As such, the NEPA Impacts Summary and CEQA Significance Conclusions described in Sections 3.12.7 and 3.12.8 are deficient due the absence of identifying J.G. Boswell Company's agricultural processing facilities as an affected business subject to closure and relocation.

The base engineering criteria used to review Transportation Section 3.2 was the High Speed Rail Authority's Publication Volume III Section C – Roadway and Grade Separation Plans Part 1 of 2. In house engineering staff developed a rendition map of the impacts from the proposed Corcoran Elevated Alternative Alignment. That map is attached as Enclosure #1 and an explanation of the impacts is listed below keyed to the numbers shown on the map:

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1. THE CORCORAN ELEVATED ALTERNATIVE REQUIRES RELOCATION OF THE PG&E 12kV OVER HEAD DISTRIBUTION LINE ALONG THE EAST SIDE OF SANTA FE AVENUE.

The DEIR/DEIS is deficient in analyzing the PG&E overhead 12-kV electrical service line serving the community and J.G. Boswell Company's agricultural processing facility. The Corcoran Elevated Alternative would impact PG&E overhead 12KV electrical service line thereby affecting the J.G. Boswell Company agricultural processing facility.

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2. RELOCATION OF THE CONNECTION POINT OF PG&E'S 12kV OVERHEAD DISTRIBUTION LINE EASTERLY ALONG THE NORTH SIDE OF SHERMAN AVE EXTENDED.

The DEIR/DEIS is deficient in analyzing the PG&E overhead 12KV electrical service line serving the community and J.G. Boswell Company's agricultural processing facility. The Corcoran Elevated Alternative would impact the PG&E overhead 12KV electrical service line thereby affecting J.G. Boswell Company's agricultural processing facility.

BO118-8

3. RELOCATION OF PG&E'S 12 kV OVERHEAD DISTRIBUTION LINE FROM THE WEST SIDE OF PICKERELL AVENUE INTO THE NORTH-EAST CORNER OF J.G. BOSWELL COMPANY'S WEST AGRICULTURAL PROCESSING SITE.

The DEIR/DEIS is deficient in analyzing the revision to the PG&E overhead 12-kV distribution line from the west side of Pickerel Avenue into the northeast corner of J.G. Boswell Company's west agricultural processing facility. The issue of analyzing the relocation of this line is important because it is essential to the operation of the facilities.

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BO118-9

4. RELOCATION OF UNDER GROUND PULL/SPLICE BOX FOR J.G. BOSWELL COMPANY'S MAIN FIBER OPTIC COMMUNICATIONS CABLE BETWEEN THE WEST AND EAST AGRICULTURAL PROCESSING FACILITIES.

The DEIR/DEIS is deficient in analyzing the relocation of the underground pull/splice box for J.G. Boswell Company's main fiber-optic communication cable between the east and west of J.G. Boswell Company's agricultural processing facilities. The issue is whether maintenance will be able to continue on this main communication with the operation of the HST.

BO118-10

5. RELOCATION OF THE SAMPLING PLATFORM AT CALIFORNIA STATE GRADING STATION.

The DEIR/DEIS is deficient in analyzing the relocation of the sampling platform at the California State Grading station. The California Department of Food and Agriculture maintains a sampling station at the east facility. This is an important regional commodity sampling station; the HST DEIR/DEIS must address the continued operation of the station and under what conditions.

BO118-11

6. LOSS OF TRUCK PARKING AND TRAFFIC FLOW PATTERN AT THE GRAIN GRADING STATION.

The DEIR/DEIS is deficient in analyzing the loss of truck parking and traffic flow pattern at the the grain grading station serving the J.G. Boswell Company agricultural processing facility east of the Corcoran Elevated Alternative for the reasons stated in item 5 above.

BO118-12

7. RELOCATION OF J.G. BOSWELL COMPANY EAST SITE, MAIN NORTH SOUTH SURFACE RUNOFF COLLECTION SWALE/GUTTER.

The DEIR/DEIS is deficient in analyzing the stormwater regulatory impacts for impacted industrial sites. The Corcoran Elevated Alternative effects individual elements of the total surface runoff collection system that may result in the necessity to completely redesign the site's grading to accommodate the drainage.

BO118-13

8. RELOCATION OF J.G. BOSWELL COMPANY EAST SITE. WEST SIDE SURFACE RUNOFF COLLECTION SUMP AND PUMP STATION.

The DEIR/DEIS is deficient in analyzing the stormwater regulatory impacts for impacted industrial sites. The Corcoran Elevated Alternative effects on individual elements of the total surface runoff collection system that may result in the necessity to completely redesign the site's grading to accommodate the drainage.

BO118-14

9. RELOCATION OF PUMPED OUTFLOW LINE ALONG THE EAST SIDE OF SANTA FE AVENUE.

The DEIR/DEIS is deficient in analyzing the stormwater regulatory impacts for impacted industrial sites. The Corcoran Elevated Alternative effects on individual elements of the total surface runoff collection system that may result in the necessity to completely redesign the site's grading to accommodate the drainage.

BO118-15

10. RELOCATION OF 8" DIAMETER J.G. BOSWELL COMPANY WATER LINE ALONG THE EAST SIDE OF SANTA FE AVENUE.

The DEIR/DEIS is deficient in analyzing the relocation of the 8" diameter J.G. Boswell Company water line along the east side of Sante Fe Avenue thereby affecting the east J.G. Boswell Company agricultural processing facility.

BO118-16

11. RELOCATION OF 12kV SERVICE/METER POLE FOR JGB GIN#5.

The DEIR/DEIS is deficient in analyzing the relocation of the 12 kV service/meter pole for the east agricultural processing facility cotton gin number five. The relocation of this structure affects the operation of the entire cotton gin. The Authority must note the requirement for agricultural commodities to be processed on a timely basis and construction operations must not interfere with the timely operation of these facilities.

BO118-17

12. INTERFERENCE WITH RAILROAD SPURS INTO EAST SITE AND AT "D" TANKS.

The DEIR/DEIS is deficient in analyzing interference with the railroad spur into the east site at the large capacity storage tanks. The lack of detail in the design maps prevents an accurate determination of this effect. but presently it appears that the Authority must perform additional analysis on the impacts to this location.

BO118-18

13. LOSS OF TRUCK STAGING AND TRAFFIC FLOW PATTERN AT RANCH OFFICE (EAST) TRUCK SCALES.

The DEIR/DEIS is deficient in analyzing the loss of truck parking and traffic flow patterns at the east J.G. Boswell Company agricultural processing facility Ranch Office. The elimination of the truck parking and altering of the traffic patterns may require a redesign of the facility. The Authority should recognize that altering traffic flows and access requires facility design modifications that could be very significant.

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BO118-19

14. LOSS OF RANCH OFFICE PARKING LOT AND TRAFFIC PATTERN.

The DEIR/DEIS is deficient in analyzing the loss of parking and traffic flow pattern at the east J.G. Boswell Company agricultural processing facility Ranch Office. The elimination of the truck parking and altering of the traffic patterns may require a redesign of the facility. The Authority should recognize that altering traffic flows and access requires facility design modifications that could be very significant. This effect is similar to item 13 above.

BO118-20

15. ELEVATED EXPOSURE LEVELS OF NOISE AND VIBRATION AT AGRICULTURAL PROCESSING FACILITIES OFFICE OCCUPANTS.

The DEIR/DEIS is deficient in analyzing the noise and vibration impacts to J.G. Boswell Company's agricultural processing facilities. The noise impacts to employees at industrial operations are represented by only one monitoring site study. The additional noise and vibration from the HST are not specifically addressed, and only generalized analysis to residences and sensitive receptors is presented. The combination of noise and vibration from current processes, the existing rail, and HST, would be adverse and substantial. Section 3.4 states in part: "There would be substantial effects under NEPA and significant impacts under CEQA for many of the receivers along the Corcoran Elevated Alternative Alignment, before consideration of mitigation. Table 3.4-15 lists the number of sensitive receivers along the Corcoran Elevated Alternative that may receive moderate or severe noise impacts from operation of the proposed project. There are 201 additional severe noise impact receivers and 131 additional moderate noise impact receivers with this alternative, compared with those of the corresponding portion of the BNSF Alternative. Appendix 3.4-A Noise and Vibration Tables 6 and 7 list the potential noise impacts under the Corcoran Elevated Alternative Alignment without mitigation for the design year (2035) at each of the locations where existing noise measurements were conducted." Additional site specific noise and vibration studies should be conducted analyzing the short and long term impacts to existing structures including noise level exposure to employees at J.G. Boswell Company's agricultural processing facilities from the Corcoran Elevated Alternative Alignment.

BO118-21

16. REDUCED ACCESS, LOSS OF PARKING (STAGING AREA) AND TRUCK TRAFFIC FLOW PATTERN AT WEST ELEVATOR/WEST SIDE LOAD OUTS AND SHANZER DRYER.

The DEIR/DEIS is deficient in analyzing the loss of parking (staging area) and truck traffic flow patterns at the east J.G. Boswell Company agricultural processing facility's west elevator/west side load outs and Shanzer dryer. The Authority should recognize that altering traffic flows and access requires facility design modifications that could be very significant. This effect is similar to item 13 above.

BO118-22

17. POSSIBLE REVISION/RELOCATION OF EAST SITE PUMPED SEWER LINE.

The EIR/EIS is deficient in addressing the sanitary sewer system at impacted facilities. The Whitley Avenue Overcrossing and the Corcoran Elevated Alternative will eliminate the pumped sanitary sewer line out of the east site to the city sewer line affecting J.G. Boswell Company Agricultural Processing Facility. The elimination of this station will require a redesign of the sewer line system at the east site.

BO118-23

18. LOSS OF ACCESS AND REDUCED TRAFFIC FLOW PATTERN AT "D" TANKS WAREHOUSE.

The DEIR/DEIS is deficient in analyzing the Whitley Avenue overcrossing and the Sherman Avenue private overcrossing impacts to the J.G. Boswell Company agricultural processing facility. The Corcoran Elevated Alternative will eliminate vehicle access to the north entrance (emergency access) of the west processing site. This is an adverse and significant impact to the security and safety of the facility.

BO118-24

19. COMPLETE LOSS OF WAREHOUSE "B", TRUCK DOCK, AND RAILROAD SPUR.

The DEIR/DEIS is deficient in analyzing the Corcoran Elevated Alternative's impacts to the J.G. Boswell Company agricultural processing facility "warehouse B". The Corcoran Elevated Alternative will eliminate the warehouse, truck dock, and railroad spur. This compete loss of a facility is a significant and adverse impact to the operations of the J.G. Boswell Company.

BO118-25

20. LOSS OF SURFACE WATER DRAINAGE SYSTEM AT SOUTH END OF EAST SIDE.

The DEIR/DEIS is deficient in analyzing the loss of the existing surface drainage system at the south end of the east J.G. Boswell Company agricultural processing facility. The Corcoran Elevated Alternative's effect on individual elements of the total surface runoff collection system may result in the necessity to completely redesign the site's grading to accommodate the drainage.

BO118-26

21. REDUCED MODULE STORAGE YARD CAPACITIES.

The DEIR/DEIS is deficient in analyzing the localized impacts of the Corcoran Elevated Alternative to the East Facility cotton ginning operations and seed cleaning and storage operations. The DEIR/DEIS is silent in analyzing the setback requirements for cotton module storage and other risk avoidance measures created by the loss of cotton module storage yard area. Decrease in the module yard storage area caused by the relocation or closure of Sante Fe Avenue may have the unintended consequence of limiting the operating capacity of the cotton gin.

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BO118-27

22. POSSIBLE REVISION TO TELEPHONE COMPANY'S MAIN FIBER OPTIC COMMUNICATIONS CABLE LOCATION AND COVER.

The DEIR/DEIS is deficient in addressing the impacts of the Corcoran Elevated Alternative to the telephone company's main fiber optic communication cable location and cover. The telephone company's main fiber optic communication cable affects the entire community. The Authority must recognize that any interruption to communication service represents a significant adverse impact.

The above 22 points shows numerous undisclosed impacts of the Corcoran Elevated Alternative that result in closure of the vegetable oil mill, the cotton gin and have many other negative impacts, as noted. These are shown on the enclosed map, which is Enclosure #1 to this letter and keyed by number to the impact.

III. ALTERNATIVE ALIGNMENT C2 - CORCORAN BYPASS DOES NOT IMPACT PUBLIC SAFETY BY PASSING AT A POINT IN THE VICINITY OF THE PRIVATE SALYER FARMS AIRPORT. SEE MAP ENCLOSURE #2.

BO118-28

J.G. Boswell Company owns and operates a private airport, the Salyer Farms Airport or Salyer Airport. Salyer Farms Airport is a 6818 foot long runway facility, located on the east side of Corcoran, and immediately to the west of State Highway 43. The airport is utilized by a variety of jet, turboprop, turbine helicopter, and piston engine aircraft. With other local public and private airports unable to handle some of these aircraft, there is no local suitable alternative. The Salyer Airport is referenced in Section 3.11 Safety and Security and Section 3.19 Cumulative Impacts. The airport is referenced in the document interchangeably as either "Salyer Airport" or "private airport", or both. This lack of a consistent reference term creates confusion on the part of the reviewers both in finding references to the facility in various sections and technical reports and in determining if the reference actually refers to the "Salyer Airport."

BO118-29

Table 3.11-5 Airports, Airstrips, and Heliports within 2 Miles of Alignment Alternative Centerlines, identifies the Salyer Farms Airport (private airport) as being 0.56 miles from the centerline of the BNSF Alternative and 0.18 miles (950 feet) from the Corcoran Bypass Alternative. On page 3.11-32 the statement is made, without reference to any substantial evidence, that the Corcoran Bypass Alternative Alignment is within 0.07 mile (370 feet) of the Salyer Farms Airport. The DEIR/DEIS states that the location of the HST this close to the airport would be a hazard to aviation and therefore would pose a hazard for people residing or working in the project area. The DEIR/DEIS further states that the "This would be a substantial effect under NEPA to the Salyer Farms Airport and would be a potentially significant impact under CEQA."

As demonstrated by the attached analysis conducted by Tartaglia Engineering, the foregoing statement is not supported by substantial evidence, is incorrect, and must be modified to reflect that

BO118-29

the HST does not create a hazard to aviation, and does not pose a threat to people residing or working in the project area. The Tartaglia Engineering report states in part in their conclusions and recommendations that the HST and the proposed communication towers do not present any impact to the existing operations at the Salyer Airport.

BO118-30

Section 3.11.8 NEPA Impacts Summary must be modified to delete the statement "Substantial effects from proximity to a private airstrip along the Corcoran Bypass Alternative." Section 3.11.9 CEQA Significance Conclusions must also be modified to delete reference to the Salyer Airport project impact. Based upon the site specific analysis, the effects of the Corcoran Bypass Alternative are considered negligible under NEPA and impacts would be less than significant under CEQA.

BO118-31

The proposed mitigation measure is not necessary, the present data does not justify the removal of the airport as a mitigation measure. The following statements in the DEIR/DEIS were apparently used to justify removal or seizure of the airport as a mitigation measure. These statements should be deleted or revised to conform to the Tartaglia Engineering report submitted herewith. The DEIR/DEIS presents the following on page 3.11:

"Corcoran Bypass Alternative Alignment

"The Corcoran Bypass Alternative Alignment is not in proximity to any public service airport. It is within 0.07 mile of the Salyer Farms Airport. The location of the HST this close to the airport would be a hazard to aviation and therefore would pose a hazard for people residing or working in the project area. This would be a substantial effect under NEPA to the Salyer Farms Airport and would be a potentially significant impact under CEQA."

And then further on page 3.11-38 under the Safety and Security measure:

"3.11.7 Mitigation Measures

"• S&S-MM#1: Compensation for Loss of a Private Airstrip. Provide compensation to the property owner of a private airstrip where the airstrip could no longer be used because of the proximity of HST facilities. Compensation is provided when the property owner planned to otherwise continue airstrip operations. The choice of continued operation is based on use of the airstrip for 3 years prior to project construction."

The mitigation measure states in a cavalier fashion that the owner would be compensated for the loss of a Private Airstrip.". This remark is entirely deficient and points to the complete lack of due diligence on the part of High Speed Rail Authority in understanding the function and purpose

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of the airport. The verbage "Airstrip" conveys an opinion that the airport is nothing more than an inconsequential facility of low utility and value. From the design description provide in these comments, the Authority will subjected to a rude awakening of the utility and value of this fully functioning private airport operation.

IV. ALTERNATIVE C3 - THE BNSF ALTERNATIVE HAS SIGNIFICANT UNDISCLOSED ADVERSE IMPACTS INCLUDING IMPACTS ON EXISTING INFRASTRUCTURE AND ON THE OPERATION OF EXISTING AGRICULTURAL PROCESSING FACILITIES. SEE MAP ENCLOSURE #4.

J.G. Boswell Company owns and operates various agricultural processing facilities that will be adversely impacted by the HST. Adjacent or in close proximity to the Corcoran segment of the HST BNSF Alternative are office facilities, a vegetable oil processing mill, cotton gins, seed treatment facilities, seed storage facilities, warehouse facilities, cotton bale and cotton module storage yards, irrigation pumps, water conveyance structures, and various other agricultural commodity processing operations and associated infrastructure including shops and vehicle fueling and storage areas. In addition to generating substantial economic activity, these operations provide significant employment for the general region.

Each of the facilities are subject to various regulatory programs administered by multiple state and federal agencies, including but not limited to air permits to operate, Regional Water Quality Control Board requirements, programs to manage hazardous materials and waste; utilities; and other requirements. These permits would be impacted by the through Corcoran BNSF Alternative. Attached is a rendition of the agricultural processing facilities situated east and west of the proposed BNSF Alternative, which bisects the operation.

As a limited and legally insufficient time was provided to review the DEIR/DEIS and the supporting technical reports and appendices, our efforts necessarily concentrated on the impacts identified with the following sections of the DEIR/DEIS:

Transportation
Air Quality and Global Climate Change
Hydrology and Water Resources
Socioeconomics, Communities, and Environmental Justice
Volume III: Section A - Alignment Plans Part 1

One of the main problems encountered were the lack of detail in the alignments. Addressing the impacts of the BNSF Alternative utilizing the DEIR/DEIS conceptional level (15 percent) design plans created a significant and burdensome requirement. The lack of detail forced our staff to provide data detailing our site specific utilities, pipelines, conveyance structures, traffic patterns, and facility impacts.

Transportation Section 3.2

Our operations developed scaled maps or renditions of the BNSF Alternative so that we could analyze the impacts of the crossings and alignments on the industrial facilities. Our analysis identified significant deficiencies in the documents, both in the design and environmental impact analysis. The BNSF Alternative discussion regarding roadway closing and roadway crossings is grossly inadequate for the Corcoran segment. The DEIR/DEIS discussion centers on regional aspects but not on the specific off-site impacts created both by the localized project changes in the traffic patterns and the significant and irreversible adverse environmental impacts on J.G. Boswell Company agricultural processing facilities.

BO118-32

DEIR/DEIS Section 3.2 Transportation is deficient; there is no detailed site specific analysis of the environmental impacts associated with the overcrossings at Whitley Avenue, Sherman Avenue, and closure of Sante Fe Ave. In essence, the two overcrossing structures and Sante Fe Avenue closure restrict movement of heavy duty diesel trucks transporting commodities from the field to the facilities east of the BNSF Alternative. From the J.G. Boswell Company operational perspective the closure of Santa Fe Avenue effectively bars field commodities from being delivered via Sante Fe Avenue to the facilities east of the BNSF Alternative from the field and effectively results in the industrial site east of the tracks being landlocked. The Authority appears to assume, without substantial evidence, that all commodity truck traffic would be diverted through the main industrial facility on the west of the BNSF Alternative, via the narrow private overpass, to the East facility. Access from Whitley Avenue is not an option due to the closure of the crossing. The Whitley Avenue overcrossing does not provide adequate access to the East facility, and the intersection at Whitley would require a switchback around to Sante Fe Avenue. The traffic pattern for delivery of commodities from the field and other offsite locations to J.G. Boswell Company east of the BNSF Alternative is not feasible due to the traffic pattern created by the changes from the pre-project surface streets. The Whitley Avenue, Private Overcrossing, and closure of Sante Fe Avenue constitutes a substantial adverse impact under NEPA and a significant impact under CEQA. The NEPA Impacts Summary and CEQA Significance Conclusions described in Sections 3.2.7 and 3.2.8 are grossly deficient and require revision and recirculation of the DEIR/DEIS in light of these comments.

BO118-33

DEIR/DEIS Section 3.2 Transportation is deficient in analyzing the localized impacts of the increase in truck traffic through the existing industrial site. The overcrossings and road closures, including the south closure of Sante Fe Avenue, effectively land locks J.G Boswell facilities located on the east side of the BNSF Alternative, providing no direct truck routes to the gins located there, and other grain processing and storage facilities from the fields. An inadequate overcrossing is proposed to be provided at Sherman Avenue. Based upon our analysis the overcrossing will be a single lane passage. The overcrossing ingress and egress onto Boswell sites modifies the entire truck traffic circulation pattern. Increasing the width of the private overpass would only exacerbate the circulation issues. This constitutes a severe deficiency in addressing the localized impacts. The

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DEIR/DEIS states "To obtain existing conditions information, traffic analysis conducted traffic counts for existing daily operating conditions for roadways that are outside the range of the regional model along the BSNF Alternative, Corcoran Elevated and Corcoran Bypass alternatives, the Allensworth Bypass, Wasco-Shafter Bypass, and Bakersfield South alternatives. This helped determine the current adequacy of the roads, and provide a baseline for comparing future roadway segments that may be affected by the project alignment." There was no discussion regarding the timing or frequency of the traffic counts, and to our knowledge there was no local Corcoran or J.G. Boswell Company stakeholder input into the traffic counts. The modified onsite and offsite traffic patterns constitute a substantial adverse impact under NEPA and a significant impact under CEQA. The NEPA Impacts Summary and CEQA Significance Conclusions described in Sections 3.2.7 and 3.2.8 are deficient and require revision and recirculation of the DEIR/DEIS in light of these comments.

BO118-34

DEIR/DEIS Section 3.2 Transportation is deficient in analyzing the localized impacts of the Whitley Ave. overcrossings to the east facility cotton ginning operations and seed cleaning and storage operations. The DEIR/DEIS is silent in addressing the setback requirements for cotton module storage and other risk avoidance measures created by the bisecting of the cotton module storage yard. The overcrossing effectively eliminates the cotton module storage yard. The bisecting of the east facility cotton module storage yards and resulting elimination of cotton module storage forces the closure of the east facility cotton ginning operations. The closure of the cotton gin creates socioeconomic and environmental impacts (addressed later) that are not indentified in the DEIR/DEIS.

The Whitley Avenue warehouse will be limited in its ability to receive and store seed for treatment. It appears from the design of the Whitley Avenue overcrossing that the Authority's engineers assumed that most receiving seed would be incoming from Highway 43 and not from nearby field operations. The facility receives commodity by rail and ships by rail, the loss of a rail spur within the facility is a significant impact. The design of the Whitley Avenue overcrossing constitutes a substantial adverse impact under NEPA and a significant impact under CEQA. The NEPA Impacts Summary and CEQA Significance Conclusions described in Sections 3.2.7 and 3.2.8 are deficient and require revision and recirculation of the DEIR/DEIS in light of these comments.

BO118-35

DEIR/DEIS Section 3.2 Transportation is deficient in analyzing the localized impacts of the proposed private Sherman Avenue overcrossing. The design of the overcrossing is silent in addressing the offsite consequences of this construction project which are substantial and serious. The overcrossing effectively eliminates the existing traffic pattern for finished oil load out from the vegetable oil processing mill finished oil tanks, thereby eliminating the ability to load vegetable oil trucks. The overpass encroaches on the vegetable oil mill finish oil storage tanks, resulting in the removal of storage tanks for finished oil. The closure of the vegetable oil load-out and change in J.G. Boswell Company traffic patterns is a substantial adverse impact under NEPA and a significant impact under CEQA. The NEPA Impacts Summary and CEQA Significance Conclusions described

BO118-35

in Sections 3.2.7 and 3.2.8 are deficient and require revision and recirculation in light of these comments.

BO118-36

DEIR/DEIS Section 3.2 Transportation is deficient in analyzing the localized impacts of the private Sherman Avenue overcrossing regarding agricultural commodity transport. The road is 24 feet wide; according to our internal review this is too narrow to support two-way traffic when transporting cotton modules given the width and length of module trailers and truck trailer articulation. The turn radius provides insufficient clearance for the cotton module trucks. The clearance distance between trucks is insufficient when taking into account the loaded trailer width dimensions. The result would be increased congestion combined with vehicle safety issues. The private Sherman Avenue overcrossing affects the J.G. Boswell Company traffic patterns, the ability to transport commodities such as cotton modules in a safe and economical way, and emission estimates and traffic congestion impacts. Therefore the Sherman Avenue overcrossing creates substantial adverse impacts under NEPA and significant impacts under CEQA. The NEPA Impacts Summary and CEQA Significance Conclusions described in Sections 3.2.7 and 3.2.8 are deficient and require revision and DEIR/DEIS recirculation in light of these comments.

Summary of DEIR/DEIS Section 3.2 Transportation Impacts on Agricultural Processing Facilities:

The base engineering criteria we used to review Transportation Section 3.2 was the High Speed Rail Authority's Publication Volume III Section C - Roadway and Grade Separation Plans Part 1 of 2. We referenced alignment C3 grade separation layout drawing number CT1277, 15% design submission. Alignment C3 - BNSF Alternative presents significant challenges to the continued operation of the J.G. Boswell Company's Corcoran agricultural processing facilities. The BNSF Alternative will result in the permanent closing and or relocation of cotton module storage yards, the permanent closing and or relocation of a cotton gin, the permanent closing or relocation of vegetable oil refinery operations, and the permanent closing and or relocation of grain and seed warehousing operations. The transportation impacts were insufficiently analyzed and the proposed structures will result in the closing of a cotton gin and the closing of a portion of the vegetable oil mill. As identified in the preceding, DEIR/DEIS Transportation Section 3.2 is deficient in analyzing the offsite adverse significant impacts from the proposed Corcoran BNSF Alternative. The NEPA Impacts Summary and CEQA Significance Conclusions described in Sections 3.2.7 and 3.2.8 are deficient and require revision and recirculation of the DEIR/DEIS in light of these comments.

Air Quality and Global Climate Change Section 3.3

J.G. Boswell Company personnel developed scaled renditions of the BNSF Alternatives so that they could analyze the impacts of the crossings and alignments on the industrial facilities and identify facilities that are permitted by air regulatory agencies. They also reviewed traffic circulation patterns within operations and potential impacts. The DEIR/DEIS discussion centers on regional aspects but not on the specific off-site impacts created both by the localized project changes in the

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traffic patterns and the environmental impacts on J.G. Boswell Company agricultural processing facilities.

BO118-37

The DEIR/DEIS Section 3.3 regarding global climate change is deficient in not analyzing the localized air quality impacts from the revised traffic circulation patterns, particularly the microscale impacts as they relate from increase in vehicles miles traveled due to road closures and congestion within the City of Corcoran for example at the Whitley Avenue overcorssing. Specifically, no analysis was performed regarding the traffic circulation impacts to the J.G. Boswell Company. The disruption from the overcrossings and elimination/modification of existing truck circulation routes are significant impacts to the City and to the Company. The NEPA Impacts Summary and CEQA Significance Conclusions described in Sections 3.3.7 and 3.3.8 are deficient due the absence of emissions studies specific to Corcoran and the affected processing sites.

BO118-38

The DEIR/DEIS Section 3.3 is deficient in analyzing microscale emission impacts. The DEIR/DEIS analyzes CO microscale emission impacts. However the same need exists to analyze microscale effects of PM10 and PM2.5 in local areas, such as Corcoran. The section identifies the "Local" study area as having potential major air emission activities along the Project alignment and generally defined as areas within 1,000 feet of the proposed stations, major intersections and HMFs." According to the Air Quality Technical Report only specific facilities proposed as part of the Project and a 1,000 foot buffer are analyzed for potential impacts and location of sensitive receptors. This defined "Study Area" fails to take into consideration the larger extent of Project imposed traffic congestion beyond a 1,000 foot buffer in the City of Corcoran, and must do so. This defined 'Study Area" fails to take into consideration localized wind circulation changes from overcrossing structures, construction, hauling and other project related impacts that will occur. The NEPA Impacts Summary and CEQA Significance Conclusions described in Sections 3.3.7 and 3.3.8 are deficient due to the absence of emissions studies specific to Corcoran and the affected processing sites requiring revision and recirculation of the DEIR/DEIS.

BO118-39

DEIR/DEIS Section 3.3 is deficient in analyzing HST operational emissions. The passage states in part "The HST project would use electric multiple unit (EMUs) trains, with the power distributed through the overhead contact system. Combustion of fossil fuels and associated emissions from HST trains would not occur. [there is no substantial evidence for this statement] However, trains traveling at high velocities, such as those associated with the proposed HST, create sideways turbulence and rear wake, which resuspend particulates from the surface surrounding the track, resulting in fugitive dust emissions. Assuming a friction velocity of 0.19 meter/second (m/s) to resuspend soils in the project region, an HST passing at 220 mph could resuspend soil particles out to approximately 10 feet from the train (Watson 1996).[7] According to the EPA methodology

[7]Watson, J.G. 1996. Effectiveness Demonstration of Fugitive Dust Control Methods for Public Unpaved Roads and Unpaved Shoulders on Paved Roads. DRI Document No.

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for estimating emissions from wind erosion (EPA 2006b). HST operations would generate approximately 29.0 tons per year of PM10 of which 4.3 tons per year would be PM2.5. These emissions would be the same for the 2035 No Project Alternative compared to the HST alternatives and the 2009 existing compared to the existing plus project scenario (Tables 3.3-11 and 3.3-12)."

The above analysis extrapolates data from a study (Watson, J.G. 1996) that did not include measurements from HST activity, let alone a HST operating in close proximately to an existing freight train, as is the case in Corcoran with the BNSF Alternative. The effect of the entrainment of suspended particles, not only from the operation of the HST but in aggregation with the existing freight train, and the resulting resuspension and dispersion of the fine particulate matter, are not addressed in the DEIR/DEIS. Further, using interpolated emission factors (as is the case here) and models, HST operation may well experience a negative localized impact on coarse and fine particulate matter concentrations. These foreseeable worst case operational emissions are in contrast to the regional air quality benefits assertion presented in the DEIR/DEIS.

BO118-40

The San Joaquin Valley APCD operates a system of air quality monitoring stations. Enclosed with these comments is the San Joaquin Valley APCD 2011 Air Monitoring Network Plan, completed June 30, 2011 for submittal to the U.S. Environmental Protection Agency in July 2011.[8] The plan outlines the valley wide ambient monitoring network. The Corcoran monitoring station is located at 1520 Patterson Ave. An environmental impact not addressed in the DEIR/DEIS, which should also be the concern of the Authority, is that an exceedance at this single air monitoring site could result in the entire air basin being reclassified in non-attainment of the federal PM10 Standards, with additional local air quality regulations being promulgated and imposed on sources in Kings County and in Corcoran specifically. The Patterson Avenue alignment construction activities will be in close proximity to this monitoring station. The monitoring station is also in proximity to the Whitley Ave overcrossing, the Sherman Avenue private overcrossing and the Orange Avenue overcrossing. The unresolved potential impacts on the monitoring station cannot be understated.

The DEIR/DEIS is deficient in not utilizing regional specific emission factors developed in the San Joaquin Valley for high speed rail, especially in the arid southern San Joaquin Valley. The Authority must undertake emission studies to monitor the specific fugitive dust emissions resulting from the HST and adjust its analysis accordingly. The NEPA Impacts Summary and CEQA Significance Conclusions described in Sections 3.3.7 and 3.3.8 are deficient due the absence of an analysis of the localized impacts to the Patterson Avenue ambient air monitoring station.

685-5200.IF2. August 2, 1996. Copy of study enclosed.

[8]Enclosure #6.

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DEIR/DEIS Section 3.3 is deficient in analyzing the air quality regulatory impacts to off-site facilities affected by construction of the HST. As stated in the DEIR/DEIS Air Quality Technical Report, "the project footprint would consist primarily of the train right-of-way, which would include both a northbound and southbound track in area typically100 feet wide. Additional right-of-way would be required to accommodate stations, multiple tracks at stations, maintenance facilities, and power substations." The discussions are primarily concerned within the impacted construction area, and operational aspects that will not be reiterated here. However, the potential regulatory requirements for affected businesses displaced by construction are not addressed nor discussed. These impacts can be significant, and result in environmental consequences not addressed or identified within the Air Quality Section 3.3.

BO118-42

Significant and adverse air quality regulatory impacts will be incurred by J.G. Boswell agricultural processing facilities as a result of the construction of the BNSF Alternative. The vegetable oil processing mill is a federal Title V regulated source and is additionally regulated by the San Joaquin Valley APCD (SJVAPCD). Any modification or change to the facility will result in modifications to the affected permits. The Air Quality Technical Report identifies the SJVAPCD's New and Modified Source Review Rule, and indentifies that offsets above certain thresholds are required to be offset, but is silent on the issue of "Actual to Potential Emission" in permitting options faced by major sources. The document is silent on explaining the need for permit modifications to relocated emissions units within a stationary source, and the regulatory requirements of such actions. Issuance of a federal Title V permit by the agency is not required, and in fact the permit can be denied. The NEPA Impacts Summary and CEQA Significance Conclusions described in Sections 3.3.7 and 3.3.8 are deficient due the absence of emissions studies specific to Corcoran and the affected processing sites.

Summary of DEIR/DEIS Section 3.3 Air Quality and Global Climate Change: Agricultural Processing Facilities

The base engineering criteria we used to review Section 3.3 Air Quality and Global Climate Change was the High Speed Rail Authority's Publication Volume III Section C - Roadway and Grade Separation Plans Part 1 of 2. We referenced alignment C3 grade separation layout drawing number CT1277, 15% design submission and the Air Quality Technical report. The BNSF Alternative will result in the permanent closing and or relocation of cotton module storage yards, the permanent closing and or relocation of a cotton gin, the permanent closing or relocating of vegetable oil refinery operations, and the permanent closing and or relocation of grain and seed warehousing operations. The Authority appears to have overlooked that the J.G. Boswell Company agricultural processing facilities are not mere retail establishments to be closed, bought out, or relocated; but instead are processing operations with significant air quality regulatory burdens to be addressed as part of the local project. While not addressed here, the cost to the Authority for the BNSF Alternative's intrusion into the agricultural processing facilities will be significant. The NEPA Impacts Summary and CEQA Significance Conclusions described in Sections 3.3.7 and 3.3.8

are deficient due the absence of emissions studies specific to Corcoran and the affected processing sites.

Hydrology and Water Resources Section 3.8

Company personnel developed scaled renditions of the BNSF Alternative so that we could analyze the impacts of the crossings and alignments on the industrial facilities. Our analysis identified significant deficiencies in the documents, both in the design and environmental impact analysis. The DEIR/DEIS discussion centers on regional aspects but not on the specific off-site impacts created both by the localized project changes to issues identified in the Hydrology and Water Resources chapter and the significant adverse environmental impacts on the J.G. Boswell Company agricultural processing facilities.

BO118-43

DEIR/DEIS Section 3.8 is deficient in analyzing and addressing stormwater impacts on facilities affected by site modifications created by the construction of the HST. The DEIR/DEIS discusses the requirements of the statewide General Permit for Stormwater Discharges Associated with Construction Activity but fails to address construction and operation impacts to facilities subject to the Industrial Storm Water General Permit beyond the established construction footprint. The DEIR/DEIS describes the study area for hydrology and water resources as the area within 100 feet of both sides of the right-of-way for each alternative alignment. The study area includes the project's proposed physical ground disturbance footprint (e.g., stations, track, equipment storage areas, substations, temporary construction areas) and includes the construction footprint. However, no analysis is provided regarding the stormwater regulatory impacts imposed on existing businesses by the construction and operation of the HST. The J.G. Boswell Company agricultural processing facilities are significantly impacted by the construction activity and the overcrossing structures. The NEPA Impacts Summary and CEQA Significance Conclusions described in Sections 3.8.7 and 3.8.8 are deficient due the absence of emissions studies specific to Corcoran and the affected processing sites.

BO118-44

The agricultural processing facilities east and west of the BNSF will be impacted by the Whitley Avenue overcrossing and Sherman Avenue Private overcrossing. The overcrossing structures eliminate a portion the west agricultural processing facility's containment structures utilized for impounding stormwater on site. The overcrossing structures alter the east agricultural processing facilities' stormwater drainage flow and conveyance channels. Both east and west facilities will encounter increased flows from enhanced runoff due the paved area drainage, which in turn will have to be engineered into the stormwater plans. Each facility will encounter increased velocities in flow due to the drainage from the overcrossing facilities. These impacts will require costly redesign of the facility grading and stormwater flow management to address potential environmental impacts.

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Summary of DEIR/DEIS Section 3.8 Hydrology and Water Resources Agricultural Processing Facilities

Due to the legally insufficient time to address the DEIR/DEIS Section 3.8, Hydrology and Water Resources, not all deficiencies have been addressed in detail: but suffice it to say that in addition to the above significant deficiency the project affects water conveyance and destroys an existing water well in the immediate project area. The track will be enclosed inside barriers and will be completely grade separated. At water crossings over canals, laterals, and other water distribution infrastructure the tracks will block the passages along the tops of the canal banks used by ditch tenders and maintenance equipment. Vehicle movement for operations and maintenance will be subject to detours to reach the other side of the grade separated tracks. This will cause additional emissions and expenditure of time due to this circuity of access. These increased emissions will have impacts to the air basin which is already in non-attainment for various NAAQS. The DEIR/DEIS fails even to recognize the impacts from blockage of canal operations and maintenance travel, and therefore there is no evalution of these impacts. Each of the aforementioned deficiencies are significant adverse impacts. As such, the NEPA Impacts Summary and CEQA Significance Conclusions described in Sections 3.8.7 and 3.8.8 are deficient because these impacts are not disclosed or evaluated.

Socioeconomics, Communities, and Environmental Justice 3.12 Agricultural Processing Facilities

As noted previously, J.G. Boswell Company developed scaled renditions of the BNSF Alternative to assist in analyzing the impacts of the crossings and alignments on the industrial facilities and identify affected facilities subject to substantial adverse impacts. For Socioeconomics, Communities, and Environmental Justice J.G. Boswell Company reviewed the data presented in the DEIR/DEIS and identified the deficiencies in the DEIR/DEIS impacts on the J.G. Boswell Company together with the community (where appropriate).

BO118-45

The DEIR/DEIS Section 3.12 is deficient in addressing the Property and Sales Tax Revenue Changes as a result of the project. The DEIR/DEIS states that "short-term reductions in these revenues caused by land acquisition are expected to be more than offset by long-term increases in the regional property and sales tax bases resulting from the improved connectivity of the region to the rest of the state." This statement is ingenuous because there will be no improved connectivity for Corcoran or its citizens. The comment exposes the flaw in the DEIR/DEIS which throughout ignores and avoids specific impacts and adverts to claimed state-wide or regional benefits. However the DEIR/DEIS fails to address the effects on the City of Corcoran, which will be severely impacted by loss of jobs and sales tax revenues from the closure of agricultural processing facilities resulting from the construction and operation of the BNSF Alternative. The NEPA Impacts Summary and CEQA Significance Conclusions described in Sections 3.12.7 and 3.312.8 are deficient due the absence of property and sales tax revenue analysis specific to Corcoran and Kings County.

BO118-46

The DEIR/DEIS Section 3.12 is deficient in addressing Disruption or Division of Existing Communities from the BNSF Alternative Alignment. The DEIR/DEIS states "The displacements, along with the increased noise and visual impacts associated with the HST project, could affect social interactions, community cohesion, and perceived quality of life in Corcoran. This would be a moderate to substantial effect under NEPA, but a less-than-significant impact under CEQA, because of the presence of an existing transportation corridor and availability of relocation resources in the community." The statement that these impact are less than significant under CEQA due to "an existing transportation corridor and availability of relocation resources" is misleading. The J. G. Boswell Company disagrees that the additional noise will not create a significant impact under CEQA. The noise impacts on employees and office personnel have not been studied to account for the additive noise effect of both HST operation and the existing freight railroad. This must be analyzed further to understand the additional mitigation required. To state that the ability of relocation resources will suffice as adequate mitigation for J.G. Boswell Company and the Corcoran community on the loss of high value agricultural processing facilities is misleading and inappropriate. The facilities are subject to closure under the BNSF Alternative. The NEPA Impacts Summary and CEQA Significance Conclusions described in Sections 3.12.7 and 3.12.8 are deficient due the absence of identifying the J.G. Boswell Company's agricultural processing facilities as an affected business subject to closure and relocation (assuming the latter is possible).

Summary DEIR/DEIS Section 3.12 Socioeconomics, Communities, and Environmental Justice Agricultural Processing Facilities

Due to legally insufficient time to address the DEIR/DEIS Socioeconomics, Communities, and Environmental Justice, not all deficiencies in the recognition and analysis of impacts on the agricultural processing facilities have been addressed in detail; suffice it to say that in addition to the above significant deficiencies, these comments may be amended at a later date. Each of the aforementioned deficiencies are significant adverse impacts. As such, the NEPA Impacts Summary and CEQA Significance Conclusions described in Sections 3.8.7 and 3.8.8 are deficient due the absence of emissions studies specific to Corcoran and the affected processing sites. The NEPA Impacts Summary and CEQA Significance Conclusions described in Sections 3.12.7 and 3.12.8 are deficient due the absence of identifying the J.G. Boswell Company's agricultural processing facilities as an affected business subject to closure and relocation.

Volume III: Section A - Alignment Plans Part 1 Impacts on Agricultural Processing Facilities

J.G. Boswell Company owns and operates various agricultural processing facilities affected by the HST. Adjacent or in close proximity to the Corcoran segment of the HST BNSF Alternative are office facilities, a vegetable oil processing mill, cotton gins, seed treatment facilities, seed storage facilities, warehouse facilities, cotton bale and cotton module storage yards, irrigation pumps, water conveyance structures, and various other agricultural commodity processing

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operations. In addition to generating substantial economic activity, these operations provide significant employment for the general region.

The base engineering criteria used to review Transportation Section 3.2 was the High Speed Rail Authority's Publication Volume III Section C - Roadway and Grade Separation Plans Part 1 of 2. We referenced alignment C3 grade separation layout drawing number CT1277, 15% design submission. Alignment C3 - BNSF Alternative presents significant challenges to the continued operation of J.G. Boswell Company's Corcoran agricultural processing facilities. The BNSF Alternative will result in the permanent closing and or relocation of cotton module storage yards, the permanent closing and or relocation of a cotton gin, the permanent closing of vegetable oil refinery operations, and the permanent closing and or relocation of grain and seed warehousing operations. To highlight the impacts of HST construction and operation on the facility and the environment, J.G. Boswell Company has developed a map that identifies 38 major impacts to the J.G. Boswell Company agricultural processing facilities. The following list identifies and briefly describes these 38 significant and adverse impacts by a number keyed to the map sheet attached as Enclosure #4.

In the aggregate all of these impacts result in the closure of the facility, since relocation may not be an option, resulting in the potential loss of over a hundred of permanent jobs.

BO118-47

1. 6" DIAMETER HIGH PRESSURE NATURAL GAS LINE ALONG EAST SIDE OF BNSF.

The DEIR/DEIS is deficient in addressing the main natural gas pipeline serving the Corcoran community and the J.G. Boswell Company agricultural processing facility. The Whitley Avenue overcrossing and the Sherman Avenue private overcrossing would eliminate access to this pipeline and require rerouting and redesign of the gas delivery system. For additional reference, this main high pressure natural gas line also supplies the J.G. Boswell Tomato Company processing plant with a tie in line just south of the agricultural processing facility. Significant utilities such as the Main High Pressure Natural Gas Line in Corcoran are potential high risk hazards that this Tier Two Environmental Review is required to identify; the DEIR/DEIS fails to do so even in light of the recent disaster that incurred in San Bruno.

BO118-48

2. GAS COMPANY PRESSURE REDUCING STATION IN THE NORTH-EAST CORNER OF THE J.G. BOSWELL WEST AGRICULTURAL PROCESSING FACILITY.

The DEIR/DEIS is deficient in addressing the natural gas reducing station serving the community and J.G. Boswell Company agricultural processing facility. The Whitley Avenue overcrossing and the Sherman Avenue private overcrossing would eliminate this natural gas reducing station and require rerouting and redesign of the gas delivery system to the facility.

BO118-49

3. MEDIUM PRESSURE NATURAL GAS LINE UNDER SHERMAN AVENUE.

The DEIR/DEIS is deficient in addressing impacts to the medium pressure natural gas line serving the J.G. Boswell Company agricultural processing facility. The Whitley Avenue overcrossing and the Sherman Avenue private overcrossing would eliminate this medium pressure natural gas pipeline and require rerouting and redesign of the gas delivery system to the facility.

BO118-50

4. 3" DIAMETER MEDIUM PRESSURE NATURAL GAS LINE INTO JGB WEST PROCESSING SITE.

The DEIR/DEIS is deficient in addressing impacts to the medium pressure natural gas line serving the J.G. Boswell Company agricultural processing facility west of the BNSF Alternative. The Whitley Avenue overcrossing and the Sherman Avenue private overcrossing would eliminate this medium pressure natural gas line and require rerouting and redesign of the gas delivery system to the facility.

BO118-51

5. TELEPHONE COMPANY MAIN FIBER OPTIC CABLE INTO CORCORAN.

The DEIR/DEIS is deficient in failure to address the telephone company main fiber optic cable access point serving the community and the J.G. Boswell Company agricultural processing facility. The Whitley Avenue overcrossing and the Sherman Avenue private overcrossing would impact the fiber optic cable affecting the entire community and the J.G. Boswell Company agricultural processing facility.

BO118-52

6. CITY WATER LINE UNDER SHERMAN AVENUE.

The DEIR/DEIS is deficient in addressing the city water line under Sherman Avenue serving the community and J.G. Boswell Company's agricultural processing facility. The Whitley Avenue overcrossing and the Sherman Avenue private overcrossing would impact the city water line affecting the entire community and the J.G. Boswell Company agricultural processing facility. The interruption in water services, even for a short period, will force the shutdown of operations resulting in economic loss to the operation.

BO118-53

7. NORTH MAIN WATER SERVICE LINE TO JGB WEST PROCESSING SITE.

The DEIR/DEIS is deficient in addressing the city water north main service line from Sherman Avenue serving the J.G. Boswell Company agricultural processing facility. The Whitley Avenue overcrossing and the Sherman Avenue private overcrossing would impact the city water line affecting the J.G. Boswell Company agricultural processing facility. The interruption in water services, even for a short period, will force the shutdown of operations resulting in economic loss to the operation.

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BO118-54

8. PG&E OH-12kV LINE SOUTHERNLY ALONG EAST SIDE OF SANTA FE AVENUE.

The DEIR/DEIS is deficient in addressing the PG&E overhead 12KV electrical service line serving the community and the J.G. Boswell Company agricultural processing facility. The Whitley Avenue overcrossing and the Sherman Avenue private overcrossing would impact PG&E overhead 12KV electrical service line thereby affecting the community and the J.G. Boswell Company agricultural processing facility. The interruption in electrical services, even for a short period, will force the shutdown of operations resulting in economic loss to the operation.

BO118-55

9. PG&E OH-12kV LINE EASTERLY ALONG NORTH SIDE OF SHERMAN AVENUE EXTENDED.

The DEIR/DEIS is deficient in addressing the PG&E overhead 12KV electrical service line serving the community and J.G. Boswell Company agricultural processing facility. The Whitley Avenue overcrossing and the Sherman Avenue private overcrossing would impact PG&E overhead 12KV electrical service line thereby affecting the J.G. Boswell Company agricultural processing facility. The interruption in electrical services, even for a short period, will force the shutdown of operations resulting in economic loss to the operation.

BO118-56

10. FAILURE TO ADDRESS IMPACTS/POTENTIAL IMPACTS TO THE TRUCK STAGING AND TRAFFIC PATTERN AND ACCESS INTO THE CALIFORNIA STATE GRAIN GRADING STATION.

The DEIR/DEIS is deficient in addressing PG&E overhead 12KV electrical service line serving the community and J.G. Boswell Company Agricultural Processing Facility. The Whitley Avenue overcrossing and the Sherman Avenue private overcrossing would impact the PG&E overhead 12KV electrical service line thereby affecting J.G. Boswell Company's agricultural processing facility.

BO118-57

11. FAILURE TO ADDRESS IMPACTS/POTENTIAL IMPACTS TO THE JGB MAIN FIBER OPTIC COMMUNICATION CABLE BETWEEN WEST AND EAST SITES.

The DEIR/DEIS is deficient in addressing the J.G. Boswell fiber optic cable access point between the East and West agricultural processing sites. The Whitley Avenue overcrossing and the Sherman Avenue private overcrossing would impact the fiber optic cable affecting J.G. Boswell Company's agricultural processing facility.

BO118-58

12. FAILURE TO ADDRESS IMPACTS/POTENTIAL IMPACTS TO THE JGB MAIN FIBER OPTIC COMMUNICATION CABLE BETWEEN THE EAST SITE AND WAREHOUSE OFFICE.

The DEIR/DEIS is deficient in addressing the J.G. Boswell fiber optic cable access point between the East site and Whitley Avenue warehouse agricultural processing sites. The Whitley Avenue overcrossing and the Sherman Avenue private overcrossing would impact the fiber optic cable affecting J.G. Boswell Company's agricultural processing facility. Maintaining continuous communication is critical to operations and cannot be understated.

BO118-59

13. PUMPED SANITARY SEWER LINE. NORTHERLY OUT OF EAST SITE TO CITY SEWER LINE AT PICKERELL AVENUE.

The DEIR/DEIS is deficient in addressing the sanitary sewer system at impacted facilities. The Whitley Avenue overcrossing and the Sherman Avenue private overcrossing eliminate the pumped sanitary sewer line out of the east site to the city sewer line, affecting J.G. Boswell Company's agricultural processing facility. The elimination of this station will require a redesign of the sewer line system at the east site.

BO118-60

14. 8" DIAMETER CITY WATER SERVICE TO EAST PROCESSING SITE.

The DEIR/DEIS is deficient in addressing the 8" city water north main service line from Sherman Avenue serving the J.G. Boswell Company agricultural processing facilities on the east side of the BNSF. The Whitley Avenue overcrossing and the Sherman Avenue private overcrossing would impact the city water line affecting these facilities.

BO118-61

15. 8" DIAMETER REDUCED PRESSURE/BACK FLOW PREVENTER FOR EAST SITE.

The DEIR/DEIS is deficient in addressing 8" reduced pressure/backflow preventer for the east site of the processing facilities. The Whitley Avenue overcrossing and the Sherman Avenue private overcrossing would impact the city water line affecting J.G. Boswell Company's agricultural processing facilities.

BO118-62

16. THERE IS NO RECOGNITION OF IMPACTS/POTENTIAL IMPACTS TO THE EAST SITE, NORTH END SURFACE WATER COLLECTION AND DRAINAGE STRUCTURE.

The DEIR/DEIS is deficient in addressing the stormwater regulatory impacts for impacted industrial sites. The Whitley Avenue overcrossing and the Sherman Avenue private overcrossing increase impervious serfaces, increase enhanced runoff, and add to the volume and velocity of drainage water to the surface water drainage system. They also encroach on existing systems. This

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BO118-62 modification will result in the necessity to completely redesign the site's grading to accommodate the altered drainage patterns, flows and amounts.

BO118-63 17. VEHICLE ACCESS TO NORTH END OF WAREHOUSES #2 AND #3, EAST SITE.

The DEIR/DEIS is deficient in addressing the Whitley Avenue overcrossing and the Sherman Avenue private overcrossing impacts to truck and vehicle access to the north end of the east facility warehouse #2 and #3. This is an unacceptable access restriction to the structures that impedes the delivery of commodities and creates a safety hazard. Significant modifications will be necessary to the reminder of the facility to address the change in traffic patterns. The replacement, redesign, and relocation of the vehicle access results in an adverse and significant impacts to truck and vehicle access to the north end of the east facility warehouse #2 and #3.

BO118-64 18. VEHICLE ACCESS TO NORTH ENTRANCE (EMERGENCY ACCESS) OF WEST PROCESSING SITE.

The DEIR/DEIS is deficient in addressing the Whitley Avenue overcrossing and the Sherman Avenue private overcrossing impacts to J.G. Boswell Company's agricultural processing facility. The BNSF Alternative will eliminate vehicle access to the north entrance (emergency access) of the west processing site. This is an adverse and significant impact to the security and safety of the facility.

BO118-65 19. VEHICLE ACCESS TO DEODERIZED OIL LOADOUT STATION.

The DEIR/DEIS is deficient in addressing the Whitley Avenue overcrossing and the Sherman Avenue private overcrossing impacts to J.G. Boswell Company's agricultural processing facility. The BNSF Alternative will eliminate vehicle access to the deodorized oil lead-out system, thereby effectively shutting down the deodorizer process.

BO118-66 20. ALTERS ESTABLISHED TRAFFIC FLOW PATTERNS OF THE ENTIRE PROCESSSING SITE.

The DEIR/DEIS is deficient in addressing the Whitley Avenue overcrossing and the Sherman Avenue private overcrossing impacts to J.G. Boswell Company's agricultural processing facility's traffic patterns. As discussed in DEIR/DEIS sections Transportation Section 3.2, and Air Quality and Global Climate Change Section 3.3, these are adverse and significant impacts.

BO118-67 21. BLOCKS WEST SITE, NORTH YARD SURFACE DRAINS AND SWALES.

The DEIR/DEIS is deficient in addressing the stormwater regulatory impacts for impacted industrial sites. The Whitley Avenue overcrossing and the Sherman Avenue private overcrossing

BO118-67 affects, and adds to the volume and velocity of drainage water to the surface water drainage system. This modification will result in the complete redesign of the grading to accommodate the drainage.

BO118-68 22. 3" DIAMETER MEDIUM PRESSURE NATURAL GAS LINE INTO JGB EAST PROCESSING SITE.

The DEIR/DEIS is deficient in addressing impacts to the medium pressure natural gas line serving the J.G. Boswell Company agricultural processing facility east of the BNSF Alternative. The Whitley Avenue overcrossing and the Sherman Avenue private overcrossing would eliminate this natural medium pressure natural gas line and require rerouting and redesign of the gas delivery system to the facility.

BO118-69 23. BLOCKS TRAFFIC PATTERN TO AND COVERS OIL MILL WHOLE SEED TANKS AND TRUCK UNLOADING PITS.

The BNSF Alternative will remove the oil mill whole seed tanks and truck unloading pits from the vegetable oil refining process, thereby effectively shutting down the plant when analyzed individually or in conjunction with items 24, 25, 26, 27, 28 and 31. The vegetable oil processing facility is a federal Title V permitted major source facility. The DEIR/DEIS fails to analyze the permitting burdens associated with a modification of this significance from both a regulatory and cost basis. The removal of the oil mill whole seed tanks and truck unloading pits from the vegetable oil refining facility results in an adverse and significant impact that cannot be overstated. The replacement, redesign, relocation of the vegetable oil refinery would be required at great cost and at a great impact to neighboring farming operations and to the developing bio diesel industry in the San Joaquin Valley.

BO118-70 24. REMOVES EXISTING OIL MILL BUILDING CONTAINING DECORTICATER, EXPELLER AND LINT REMOVAL ROOMS.

The BNSF Alternative will remove the oil mill decorticating, expeller, and lint removal processes from the vegetable oil refining process, thereby effectively shutting down the plant when analyzed individually or in conjunction with items 23, 25, 26, 27, 28 and 31. The vegetable oil processing facility is a federal Title V permitted major source facility. The DEIR/DEIS fails to analyze the permitting burdens associated with a modification of this significance from both a regulatory and cost basis. The removal of the decorticating, expeller, and lint removal processes from the vegetable oil refining facility results in an adverse and significant (NEPA/CEQA) impact that cannot be overstated. The replacement, redesign, relocation of the vegetable oil refinery would be required at great cost and at a great impact to neighboring farming operations and to the developing bio diesel industry in the San Joaquin Valley.

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BO118-71

25. REMOVES PARTS OF COTTONSEED SUPPLY (INPUT) SYSTEM OF OIL MILL.

The BNSF Alternative will remove parts of the cottonseed input system from the vegetable oil refining process, thereby effectively shutting down the plant when analyzed in conjunction with items 23, 24, 26, 27, 28 and 31. The vegetable oil processing facility is a federal Title V permitted major source facility. The DEIR/DEIS fails to analyze the permitting burdens associated with a modification of this significance from both a regulatory and cost basis. The removal of the cottonseed input system from the vegetable oil refining facility results in an adverse and significant impact that cannot be overstated. The replacement, redesign, relocation of the vegetable oil refinery would be required at great cost and at a great impact to neighboring farming operations and to the developing bio diesel industry in the San Joaquin Valley.

BO118-72

26. REMOVES COTTONSEED STORAGE HOUSE #6.

The BNSF Alternative will remove cottonseed storage house #6 from the vegetable oil refining process, thereby effectively shutting down the plant when analyzed in conjunction with items 23, 24, 25, 27, 28 and 31. The vegetable oil processing facility is a federal Title V permitted major source facility. The DEIR/DEIS fails to analyze the permitting burdens associated with a modification of this significance from both a regulatory and cost basis. The removal of cottonseed storage house #6 the from the vegetable oil refining facility is an adverse and significant impact that cannot be overstated. The replacement, redesign, and relocation of the vegetable oil refinery would be required at great cost and at a great impact to neighboring farming operations and to the developing bio diesel industry in the San Joaquin Valley. Furthermore there is no assurance that the facility could be relocated or that the permits for a relocated facility could be obtained.

BO118-73

27. THE BNSF ALTERNATIVE BLOCKS AND PREVENTS THE USE OF TWO RAIL SPURS OFF OF THE BNSF RAIL ROAD INTO THE WEST SITE.

The BNSF Alternative will remove the use of two rail spurs into the West Site. When analyzed in conjunction with items 23, 24, 25, 26, 28 and 31 this impact is adverse and significant. The vegetable oil processing facility is a federal Title V permitted major source facility. The removal of two rail spurs into the West Site from the vegetable oil refining facility and commodity operations is a adverse and significant impact that cannot be overstated. It is also an adverse and significant impact that is not recognized in the DEIR/DEIS and for which no mitigation is offered. The replacement, redesign, and relocation (if possible) of the vegetable oil refinery would be required at great cost and at a great impact to neighboring farming operations and to the developing bio diesel industry in the San Joaquin Valley.

BO118-74

28. THE BNSF ALTERNATIVE COVERS THE MAIN SURFACE WATER COLLECTION SUMP, PUMP STATION AND OUTFALL LINE FOR THE OIL MILL PAVED AREAS.

The DEIR/DEIS is deficient in addressing the stormwater regulatory impacts for impacted industrial sites, the Whitley Avenue overcrossing and Sherman Avenue private overcrossing affect, and add to the volume and velocity of drainage water to the surface water drainage system. This modification will necessitate the complete redesign of the grading to accommodate the drainage. When analyzed in conjunction with impacts 23, 24, 25, 26, 27 and 31 this impact is adverse and significant to the ability of the vegetable oil processing mill's ability to continue operation.

BO118-75

29. THE BNSF ALTERNATIVE PERMANTENTLY BLOCKS THE EAST ACCESS ROAD TO THE SOUTH MODULE YARDS.

The DEIR/DEIS is deficient in addressing the Whitley Avenue overcrossing and the Sherman Avenue private overcrossing impacts to the J.G. Boswell Company agricultural processing facilities. The BNSF Alternative will eliminate access to the south module yards of the west processing site. This is an adverse and significant impact to the security and safety of the facility affecting the entire traffic flow for the facility. This significant adverse impact is not dislosed and is unmitigated.

BO118-76

30. THE BNSF ALTERNATIVE ENCROACHES OVER, OR COVERS, THE SOUTH "EXCESS EQUIPMENT" STORAGE YARD.

The DEIR/DEIS is deficient in addressing the Whitley Avenue overcrossing and the Sherman Avenue private overcrossing impacts to J.G. Boswell Company's agricultural processing facilities. The BNSF Alternative will eliminate the equipment storage yard at the south end of the west processing site necessitating the relocation and reconstruction of the facility. This is an adverse and significant impact to the security and safety of the facility affecting the entire traffic flow for the facility. This significant adverse impact is not dislosed and is unmitigated.

BO118-77

31. THE BNSF ALTERNATIVE ENCROACHES ON, OR COVERS THE "FINISHED OIL" RAIL CAR LOAD OUT FACILITIES.

The EIR/EIS is deficient in addressing the "finished oil" rail car load out facilities. The BNSF Alternative will eliminate the ability of the oil mill to load out vegetable oil by rail. When analyzed in conjunction with impacts 23, 24, 25, 26, 27 and 34 this impact is adverse and significant to the ability of the vegetable oil processing mill's ability to continue operation.

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BO118-78

32. THE BNSF ALTERNATIVE ENCROACHES ON AND COVERS A 300 HP IRRIGATION WELL AT THE SOUTH END OF THE WEST SITE.

The DEIR/DEIS is deficient in addressing water resource impacts: the BNSF Alternative will eliminate an existing 300 hp deep well supplying irrigation water to the site. Due the need for developed water resources, and the cost and environmental impacts associated with the development of a new well, this is an adverse and significant impact which is not disclosed or mitigated.

BO118-79

33. THE BNSF ALTERNATIVE SIGNIFICANTLY REDUCES MODULE STORAGE DUE TO LAND COVERAGE AND INSURANCE COMPANY SET BACK REQUIREMENTS.

The DEIR/DEIS is deficient in analyzing the localized impacts of the Whitley Avenue overcrossing to the east facility cotton ginning operations and seed cleaning and storage operations. The DEIR/DEIS is silent in addressing the setback requirements for cotton module storage and other risk avoidance measures created by bisecting the cotton module storage yard. The overcrossing effectively eliminates the cotton module storage yard. The bisecting of the east facility cotton module storage and resulting elimination of cotton module storage forces the closure of the east facility cotton ginning operations. The closure of the cotton gin creates socioeconomic and environmental impacts (addressed later) that are not indentified in the DEIR/DEIS.

BO118-80

34. THE BNSF ALTERNATIVE REQUIRES A COMPLETE REDESIGN OF INPUT FACILITIES, TRAFFIC FLOW PATTERNS AND SITE DRAINAGE FOR THE OIL MILL AREA OF THE WEST AGRICULTURAL PROCESSING FACILITY SITE.

The DEIR/DEIS is deficient in addressing the stormwater regulatory impacts for impacted industrial sites. Both the Whitley Avenue overcrossing and the Sherman Avenue private overcrossing affect, and add to the volume and velocity of drainage water to the surface water drainage system. This modification will result in the complete redesign of the grading to accommodate the increased volume and rate of flow drainage. When analyzed in conjunction with impacts 23, 24, 25, 26, 27, 28 and 31, this impact is adverse and significant to the ability of the vegetable oil processing mill's ability to continue operation.

BO118-81

35. THE BNSF ALTERNATIVE SIGNIFICANTLY INCREASES SURFACE WATER RUN OFF VOLUME.

The DEIR/DEIS is deficient in addressing the stormwater regulatory impacts for impacted industrial sites. The Whitley Avenue overcrossing and the Sherman Avenue private overcrossing affect, and add to the volume and velocity of drainage water to the surface water drainage system. This modification will result in the complete redesign of site grading to accommodate the increased quantity and velocity of drainage. This impact is adverse and significant to the ability of the

BO118-81

vegetable oil processing mill's ability to continue operation. This significant adverse impact is not disclosed or mitigated in the DEIR/DEIS.

BO118-82

36. THE BNSF ALTERNATIVE CREATES A "DEAD AIR" MICRO CLIMATE, JUST NORTH OF THE OIL MILL AND GRAIN WAREHOUSES.

The DEIR/DEIS is deficient in analyzing microscale climate impacts. The DEIR/DEIS analyzes microscale emission impacts, and the same could be said for the need to analyze microscale effects of potential dead air spaces in local areas, such as that potentially created by the Whitley Avenue overcrossing and the Sherman Avenue private overcrossing to the vegetable oil mill refining operations. The defined "Study Area" fails to take into consideration localized wind circulation changes that will occur from or be caused by the overcrossing structures. The Whitley Avenue overcrossing and the Sherman Avenue private overcrossing have the potential to affect the microclimate of the vegetable oil refinery since the prevailing winds are effectively blocked by the overcrossings. The NEPA Impacts Summary and CEQA Significance Conclusions described in Sections 3.3.7 and 3.3.8 are deficient due the absence of emissions studies specific to Corcoran and the affected processing sites.

BO118-83

37. SOLVENT STORAGE.

The DEIR/DEIS is deficient in failing to recognize that the vegetable oil refinery is a solvent extraction process and that a solvent extraction process is commonly used in the vegetable oil extraction industry throughout the world. The solvent utilized in the process is stored on site. The BNSF Alignment would encroach on the storage sites shown under key 37 on the map and would require the removal, relocation, and/or taking of these facilities. The alignment's impacts on these facilities is not disclosed or mitigated.

BO118-84

38. CLOSURE OF SANTE FE AVENUE.

The DEIR/DEIS is deficient because there is no detailed site specific analysis of the environmental impacts associated with the overcrossings at Whitley Avenue, Sherman Avenue, and the proposed closure of Sante Fe Avenue. In essence, the two overcrossing structures and the Sante Fe Avenue closure restrict movement of heavy duty diesel trucks and other vehicles transporting commodities from the field to the facilities located east of the BNSF Alternative. From J.G. Boswell Company's operational perspective the closure of Sante Fe Avenue effectively bars field commodities from being delivered via Sante Fe Avenue to the facilities east of the BNSF Alternative from the field and effectively results in the East industrial site being landlocked.

The above 38 points shows numerous undisclosed impacts of the BNSF Alternative that result in closure of the vegetable oil mill, the cotton gin and have many other negative impacts, as

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noted. These are shown on the enclosed map, which is Enclosure #4 to this letter and keyed by number to the impact.

BO118-85

V. THE BNSF ALIGNMENT WILL CAUSE NEGATIVE IMPACTS TO A PROPOSED SOLAR FARM AT THE NEVADA AVENUE CROSSING BECAUSE THE DEIR/DEIS PROPOSES TO RE-ALIGN NEVADA AVENUE OVER A PORTION OF THE PROPOSED SOLAR FARM. SEE THE MAP ATTACHED AS ENCLOSURE #7.

The HST Project would use electric multiple unit (EMUs) trains, with the power distributed through the overhead contact system. The DEIR/DEIS discusses in 3.6, Public Utilities and Energy, that the State of California "projected deficits indicate the need for additional generation capacity." The DEIR/DEIS further states that the HSR will utilize electricity derived from renewable sources, including solar.

Volume III Section C – Roadway and Grade Separation Plans Part 1 of 2 identifies impacts to a projected solar generation site location at Highway 43 and Nevada Avenue. J.G. Boswell staff referenced alignment C1 grade separation layout drawing number CT11210 and CT11211, 15% design submission to ascertain the impacts of the proposed Nevada Avenue overcrossing on the proposed solar facility. J.G. Boswell Company staff created a rendition of the site which is attached displaying the impact to the solar site. The crossing will create the necessity to modify the proposed solar facility's layout and design and will result in decreased area for the solar panels. The Authority needs to reconsider the design and placement of the Nevada Avenue realignment, in particular placement of the facilities to the south of the existing Nevada Avenue alignment as feasible mitigation for impacts to the solar site under the proposed realignment of Nevada Avenue.

VI. CONCLUSION.

NEPA and CEQA are disclosure statutes. They are designed to inform the public and decision makers of the impacts of proposed actions before irretrievable commitments of resources are made. Here, these purposes are frustrated. The Authority has denied all interested parties due process and allowed only a legally inadequate time to review and comment on environmental documents for the biggest, most complex public work ever undetaken in the San Joaquin Valley, if not the State. This frustrates the legislative purpose of environmental disclosure statutes. And, as shown above, in many instances the DEIR/DEIS is not an adequate disclosure document, does not acknowledge and disclose significant adverse impacts to the environment, and fails to mitigate these unrecognized impacts.

Our analysis of the BNSF Alternative shows at least 38 impact areas not disclosed in the DEIR/DEIS. These impacts place the continued operation of facilities at risk including the vegetable oil processing mill, and other facilities. These undisclosed impacts of the BNSF Alternative are

shown on the enclosed map, ENCLOSURE #4, and number keyed to that map and are discussed in Part IV above beginning at page 15.

Similarly, the Corcoran Elevated Alternative includes at least 22 impact areas that are not disclosed in the DEIR/DEIS. These impacts are significant and adverse and could imperil the continued operation of the facilities noted. These undisclosed impacts of the Corcoran Elevated Alternative are shown on the enclosed map, ENCLOSURE #1, and number keyed to the map and are discussed in Part II above beginning at page 5.

The Authority's agenda is driven by commencing construction within the time to receive federal funds. In its October 6, 2011 letter denying J.G. Boswell Company's extension request, the Authority admitted: "We acknowledge that many individuals and entities have requested a comment period longer than the official 60-day review provided, however, the extension to October 13, 2011 strikes a balance between the requests for more time and the constraints associated with federal funding that require the Authority to keep the EIR/EIS process moving forward." This reasoning will not hold up because the Authority certified a Program EIR/EIS six years ago, but took almost another five years to issue a project specific DEIR/DEIS. The Authority's lack of diligence, or its need to meet federal time constraints, cannot take precedence over the rights of all interested parties to their rights to due process and inherent fairness in being afforded an adequate time to review and comment on the environmental documents. That adequate time period has not been allowed, and the ability to comment necessarily compromised and truncated. The only remedy is to reopen the comment period for a sufficient length of time to satisfy legal and due process requirements.

Very truly yours,

GRISWOLD, LaSALLE, COBB,
DOWD & GIN, L.L.P.

By: _____
RAYMOND L. CARLSON

cc: Federal Railroad Authority (via overnight delivery) (w/encl.)
Dennis Tristao (w/encl.)

ENCLOSURES

1. Drawing "Proposed High Speed Rail Elevated Alternative C-1 Conflicts and Concerns" dated 10/10/11
2. Drawing "High Speed Rail Proposed Alignment C-2 Airport Analysis" dated 10/7/11

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3. Tartaglia Engineering Report "High Speed Rail Corcoran Bypass Alternative Alignment and Relation to Salyer Farms Airport" dated 10/7/11
4. Drawing "Proposed High Speed Rail at Grade Alternative C-3 Conflicts and Concerns" dated 10/07/11
5. Watson, Dr. J.G., Final Study Plan for Effectiveness Demonstration of Fugitive Dust Control Methods for Public Unpaved Roads and Unpaved Shoulders on Paved Streets. DRI Document No. 685-5200.1F2, prepared for San Joaquin Valley Unified Air Pollution Control District
6. San Joaquin Valley Air Pollution Control District 2011 Air Monitoring Network Plan dated June 30, 2011
7. Drawing "High Speed Rail & Solar Lease Agreement Property" dated 9/22/11
8. List of Preparers
9. Statement of Qualifications Tartaglia Engineering

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BO118-1

Refer to Standard Response FB-Response-GENERAL-01, FB-Response-GENERAL-20.

BO118-2

A calendar of proposed dates does not meet the requirementfor a properly noticed meeting. The Bagley-Keene Act requires, under GovernmentCode section 11125(a), that an agency provide at least ten (10) days writtennotice prior to the board meeting to be held. The Act would not apply to ameeting that was neither held nor properly noticed.

BO118-3

According to FRA methodology, industrial land uses are not considered noise-sensitive areas.

BO118-4

According to FRA methodology, industrial land uses are not considered noise-sensitive areas, because in general, the activities within these buildings are compatible with higher noise levels (FTA 2006).

BO118-5

Refer to Standard Response FB-Response-SO-01, FB-Response-SO-03, FB-Response-GENERAL-05, FB-Response-N&V-03, FB-Response-N&V-05.

For information about the impacts on commercial and industrial businesses in communities, see the Revised DEIR/Supplemental DEIS, Volume I, Section 3.12, Impact SO #11. For information on the property acquisition and compensation process, see Volume II, Appendix 3.12-A. It is beyond the scope of the EIR/EIS to address the specific concerns of each private business. Individual acquisition and access issues will be determined during the property acquisition process. Also see the Community Impact Assessment Technical Report, Appendix B, for a discussion of the JG Boswell Company in the community baseline data.

The commenter's opposition to the Corcoran Elevated Alternative is noted. The Authority will use the information in the Revised DEIR/Supplemental DEIS and input from the agencies and public to identify the Preferred Alternative. The decision will include consideration of the project purpose and need and the project objectives presented in Chapter 1, Project Purpose and Need, as well as the objectives and criteria in the alternatives analysis, and the comparative potential for environmental impacts.

BO118-5

BO118-6

Refer to Standard Response FB-Response-PU&E-03.

There are many utilities within or crossing the study area for the proposed HST and associated facilities. The proposed project would avoid, protect or reroute potentially affected existing public utility infrastructure. The Authority would work with utility owners during final engineering design to relocate utilities or protect them in place. Where overhead distribution lines cross the HST alignment, the Authority and the utility owner may determine that it is best to place the line underground. In this case, the distribution line would be placed in a conduit so that future maintenance of the line could be accomplished outside the HST right-of-way. Where existing underground pipelines cross the HST alignment, the utilities would be placed in a protective casing so that future maintenance could be accomplished outside of the HST right-of-way. The project construction contractor would coordinate schedules for utility relocations and protection-in-place with the utility owner to ensure the project would not result in prolonged disruption of services. Refer to Section 3.6.5.

Based on the current level of design, the overhead 12-kV electrical service transmission line potentially affected along the east side of Santa Fe Avenue would, upon agreement between the Authority and the Pacific Gas and Electric Company, be placed underground and within a conduit at the expense of the Authority. The Authority's construction contractor will coordinate schedules for utility relocations and protection-in-place with the utility owner to ensure the project would minimize or eliminate the potential for disruption of service to affected users and the community.

BO118-7

Refer to Standard Response FB-Response-PU&E-03.

There are many utilities within or crossing the Study Area for the proposed HST and associated facilities. The proposed project would avoid, protect or reroute potentially

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affected existing public utility infrastructure. The Authority would work with utility owners during final engineering design and construction of the project to relocate utilities or protect them in place. Where overhead distribution lines cross the HST alignment, the Authority and the utility owner may determine that it is best to place the line underground. In this case, the distribution line would be placed in a conduit so that future maintenance of the line could be accomplished outside the HST right-of-way. Where existing underground pipelines cross the HST alignment, the utilities would be placed in a protective casing so that future maintenance could be accomplished outside of the HST right-of-way. The project construction contractor would coordinate schedules for utility relocations and protection-in-place with the utility owner to ensure the project would not result in prolonged disruption of services. Refer to Section 3.6.5.

Based on the current level of design, the overhead 12-kV electrical service transmission line potentially affected along the north side of Sherman Avenue Extended would, upon agreement between the Authority and the Pacific Gas and Electric Company, be placed underground and within a conduit at the expense of the Authority. The Authority's construction contractor will coordinate schedules for utility relocations and protection-in-place with the service provider to ensure the project will either minimize or eliminate the potential for disruption of service to affected users and the community.

BO118-8

Refer to Standard Response FB-Response-PU&E-03.

There are many utilities within or crossing the Study Area for the proposed HST and associated facilities. The proposed project would avoid, protect or reroute potentially affected existing public utility infrastructure. The Authority would work with utility owners during final engineering design and construction of the project to relocate utilities or protect them in place. Where overhead distribution lines cross the HST alignment, the Authority and the utility owner may determine that it is best to place the line underground. In this case, the distribution line would be placed in a conduit so that future maintenance of the line could be accomplished outside the HST right-of-way. Where existing underground pipelines cross the HST alignment, the utilities would be placed in a protective casing so that future maintenance could be accomplished outside of the HST right-of-way. The project construction contractor would coordinate schedules

BO118-8

for utility relocations and protection-in-place with the utility owner to ensure the project would not result in prolonged disruption of services. Refer to Section 3.6.5.

Based on the current level of design, the overhead 12-kV electrical service transmission line potentially affected along the west side of Pickerell Avenue will, upon agreement between the Authority and the Pacific Gas and Electric Company, be placed underground and within a conduit at the expense of the Authority. The Authority's construction contractor will coordinate schedules for utility relocations and protection-in-place with the service provider to ensure the project will either minimize or eliminate the potential for disruption of service to affected users and the community.

BO118-9

Refer to Standard Response FB-Response-PU&E-03.

There are many utilities within or crossing the Study Area for the proposed HST and associated facilities. The proposed project would avoid, protect or reroute potentially affected existing public utility infrastructure. The Authority would work with utility owners during final engineering design and construction of the project to relocate utilities or protect them in place. Where communication cables cross the HST alignment, the Authority and the utility owner may determine that it is best to place the line underground. In this case, the communication cables would be placed in a conduit so that future maintenance of the line could be accomplished outside the HST right-of-way. Where existing fiber optic lines cross the HST alignment, the utilities would be placed in a protective casing so that future maintenance could be accomplished outside of the HST right-of-way. The project construction contractor would coordinate schedules for utility relocations and protection-in-place with the utility owner to ensure the project would not result in prolonged disruption of services. Refer to Section 3.6.5.

Based on the current level of design, the pull/splice box serving the Boswell main fiber optic communication cable between its West and East agricultural processing facilities will, upon agreement between the Authority and the public service provider, be replaced and rerouted in a conduit at the expense of the Authority. The Authority's construction contractor will coordinate schedules for utility relocation with the service provider to ensure the project will either minimize or eliminate the potential for disruption of service

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to affected users.

BO118-10

Refer to Standard Response FB-Response-SO-01.

Additional details on the California Department of Food and Agriculture (CDFA) Corcoran sampling station have been added to the EIR/ EIS, Volume I, Section 3.12, Impact SO #12. The BNSF Through Corcoran and Corcoran Elevated HST alternatives would both travel along the existing BNSF railway corridor through the J.G. Boswell property where the CDFA sampling station is located. The BNSF Through Corcoran alternative would be located on the western side of Santa Fe Avenue and would not directly impact the sampling station. The Corcoran Elevated alternative would be located west of Santa Fe Avenue, but would require the road to be shifted east closer to the sampling station. Under both of these alternatives, it is not anticipated that the sampling station would be relocated. However, the final full and partial parcel acquisition details will ultimately be determined on a case-by-case basis during the land acquisition phase of the project. The Authority will consult with these respective parties before land acquisition to assess potential opportunities to reconfigure land use or buildings, and relocate facilities,, as necessary, to minimize the disruption of facility activities and services. Mitigation Measure SO-4: Implement measures to reduce impacts associated with the relocation of important facilities, will be effective in minimizing the impacts of the project by completing new facilities before necessary relocations and by involving affected facilities in the process of identifying new locations for their operations.

BO118-11

Refer to Standard Response FB-Response-TR-01.

As stated in the comment, the construction of the Corcoran Elevated Alternative would require the relocation of Santa Fe Avenue to the east. The relocation will require the acquisition of additional right-of-way, currently used as internal vehicle and truck parking and traffic flow for the grading station.
The elevated structure proposed at this location may help reduce impacts to parking and circulation at this property. However, the shifting of Santa Fe Avenue may still affect the

BO118-11

site's internal operations. If the project results in the acquisition or direct interference with the existing operations at this property, additional refinement during project design may allow avoidance or further minimization of adverse effects. Unavoidable impacts may be subject to damages. These would be determined during final design and right-of-way phases of the project.

BO118-12

Refer to Standard Response FB-Response-GENERAL-04, FB-Response-HWR-02, FB-Response-SO-01.

The permanent right-of-way for the Corcoran Elevated or BNSF Alternative would include a portion of the Boswell property adjacent to the existing freight track and/or Santa Fe Avenue. Any of Boswells' surface runoff gutters and swales located within the project ROW would need to be relocated. The Authority will fairly compensate land owners during the right-of-way acquisition process for relocation of existing drainage infrastructure. If relocated drainage systems would need to be re-permitted, compensation would also include regulatory costs. It is unlikely that the industrial site's grading would need to be completely redesigned because current on-site drainage patterns in areas outside of the HST right-of-way would not be impacted. Boswell's runoff would be pickup at the edge of the HST ROW close to where it now drains to and carried in the same direction and discharged to a similar location.

Please also note that further refinement has been made to the alignment alternatives since issuance of the Draft EIR/EIS, as described in the Revised DEIR/Supplemental DEIS. The BNSF and Corcoran Elevated alternatives will be on an aerial structure in southeast Corcoran in the vicinity of the Sherman Avenue crossing. Drainage systems within portions of elevated track would collect and drain stormwater to the ground through downspouts at the columns located every 100 to 120 feet along the alignment. Drainage from the downspouts would typically infiltrate within the HST rights-of-way or be conveyed parallel to the overhead track to a nearby stormwater collection system. Runoff from the project would not be discharged directly to private property. Santa Fe Avenue would be realigned under the Corcoran Elevated Alternative and the existing freight rail tracks for the Boswell Spur would be realigned under the BNSF Alternative.

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Drainage management for Santa Fe Avenue or the freight rail rights-of-way would meet or exceed current practices. Detailed grading and drainage plans will be prepared by the design-build contractor based on the design standards described in Standard Response FB-Response-HWR-02. In addition, engineers participating in the right-of-way acquisition process will ensure that site-specific drainage impacts to neighboring properties are not created.

BO118-13

Refer to Standard Response FB-Response-GENERAL-04, FB-Response-HWR-02, FB-Response-SO-01.

The permanent right-of-way for the Corcoran Elevated or BNSF Alternative would include a portion of the Boswell property adjacent to the existing freight track and/or Santa Fe Avenue. Any of Boswells' surface runoff sumps or pump stations located within the project ROW would need to be relocated. The Authority will fairly compensate land owners during the right-of-way acquisition process for relocation of existing drainage infrastructure. If relocated drainage systems would need to be re-permitted, compensation would also include regulatory costs

Please also note that further refinement has been made to the alignment alternatives since issuance of the DEIR/DEIS, as described in the Revised DEIR/Supplemental DEIS. The BNSF and Corcoran Elevated alternatives will be on an aerial structure in southeast Corcoran in the vicinity of the Sherman Avenue crossing. Drainage systems within portions of elevated track would collect and drain stormwater to the ground through downspouts at the columns located every 100 to 120 feet along the alignment. Drainage from the downspouts would typically infiltrate within the HST rights-of-way or be conveyed parallel to the overhead track to a nearby stormwater collection system. Runoff from the project would not be discharged directly to private property. Santa Fe Avenue would be realigned under the Corcoran Elevated Alternative and the existing freight rail tracks for the Boswell Spur would be realigned under the BNSF Alternative. Drainage management for Santa Fe Avenue or the freight rail rights-of-way would meet or exceed current practices. Detailed grading and drainage plans will be prepared by the design-build contractor based on the design standards described in Standard Response FB-Response-HWR-02. In addition, engineers participating in the right-of-way

BO118-13

acquisition process will ensure that site-specific drainage impacts to neighboring properties are not created.

BO118-14

Refer to Standard Response FB-Response-GENERAL-04, FB-Response-HWR-02, FB-Response-SO-01.

The permanent right-of-way for the Corcoran Elevated or BNSF Alternative would include a portion of the Boswell property adjacent to the existing freight track and/or Santa Fe Avenue. If the Boswell runoff pump outflow line is located within or discharges in the project footprint it would need to be relocated. The Authority will fairly compensate land owners during the right-of-way acquisition process for relocation of existing drainage infrastructure. If relocated drainage systems would need to be re-permitted, compensation would also include regulatory costs. The intent is to put the line back into service so that it provides Boswell with the same utility as the existing line.

Please also note that further refinement has been made to the alignment alternatives since issuance of the Draft EIR/EIS, as described in the Revised DEIR/Supplemental DEIS. The BNSF and Corcoran Elevated alternatives would be on an aerial structure in southeast Corcoran in the vicinity of the Sherman Avenue crossing. Drainage systems within portions of elevated track would collect and drain stormwater to the ground through downspouts at the columns located every 100 to 120 feet along the alignment. Drainage from the downspouts would typically infiltrate within the HST rights-of-way or be conveyed parallel to the overhead track to a nearby stormwater collection system. Runoff from the project would not be discharged directly to private property. Santa Fe Avenue would be realigned under the Corcoran Elevated Alternative and the existing freight rail tracks for the Boswell Spur would be realigned under the BNSF Alternative. Drainage management for Santa Fe Avenue or the freight rail rights-of-way would meet or exceed current practices. Detailed grading and drainage plans will be prepared by the design-build contractor based on the design standards described in Standard Response FB-Response-HWR-02. In addition, engineers participating in the right-of-way acquisition process will ensure that site-specific drainage impacts to neighboring properties are not created.

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Refer to Standard Response FB-Response-PU&E-03.

There are many utilities within or crossing the Study Area for the proposed HST and associated facilities. The proposed project would avoid, protect or reroute potentially affected existing public utility infrastructure. The Authority would work with utility owners during final engineering design and construction of the project to relocate utilities or protect them in place. Where existing underground pipelines cross the HST alignment, the utilities would be placed in a protective casing so that future maintenance could be accomplished outside of the HST right-of-way. The project construction contractor would coordinate schedules for utility relocations and protection-in-place with the utility owner to ensure the project would not result in prolonged disruption of services. Refer to Section 3.6.5.

Based on the current level of design, the 8-inch diameter water distribution line located on the east side of Santa Fe Avenue would, upon agreement between the Authority and the public service provider, be replaced and rerouted at the expense of the Authority. The Authority's construction contractor will coordinate schedules for its relocation to ensure the project will either minimize or eliminate the potential for disruption of service to affected users.

BO118-16

Refer to Standard Response FB-Response-PU&E-03.

There are many utilities within or crossing the Study Area for the proposed HST and associated facilities. The proposed project would avoid, protect or reroute potentially affected existing public utility infrastructure. The Authority would work with utility owners during final engineering design and construction of the project to relocate utilities or protect them in place. Where overhead distribution lines cross the HST alignment, the Authority and the utility owner may determine that it is best to place the line underground. In this case, the distribution line would be placed in a conduit so that future maintenance of the line could be accomplished outside the HST right-of-way. Where existing underground pipelines cross the HST alignment, the utilities would be placed in a protective casing so that future maintenance could be accomplished outside

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of the HST right-of-way. The project construction contractor would coordinate schedules for utility relocations and protection-in-place with the utility owner to ensure the project would not result in prolonged disruption of services. Refer to Section 3.6.5.

Based on the current level of design, the overhead 12-kV electrical service/meter pole servicing the Boswell cotton gin #5 operation will, upon agreement between the Authority and the Pacific Gas and Electric Company, be relocated or placed underground and within a conduit at the expense of the Authority. The Authority's construction contractor will coordinate schedules for utility relocations and protection-in-place with the service provider to ensure the project will either minimize or eliminate the potential for disruption of service to affected users.

BO118-17

Refer to Standard Response FB-Response-SO-01.

At this stage of project design, identifying the individual circumstances surrounding the acquisition of land on each parcel is not possible. Instead of specific individual impacts, the EIR/EIS provides an overall analysis of commercial, industrial, and residential displacements and the economic effects of such displacements to the communities affected by the project. This provides the general public and decision makers with an understanding of the nature and magnitude of the impacts. The final full and partial parcel acquisition decisions will ultimately be determined on a case-by-case basis during the land acquisition phase of the project, see Appendix 3.12-A for more information on the property acquisition and compensation procedures.

At the location of the J.G. Boswell facility the Corcoran Elevated alternative would travel through the site along the existing BNSF railway corridor and require shifting Santa Fe Avenue eastward. Some property may be required to accommodate this shift; however, it would not result in the displacement of any silos or structures immediately adjacent to the road. Some modifications to the BNSF railway spurs may be required, but access to and from the J.G. Boswell facility will be maintained. Any direct loss of land or diminution in value to a property owner's parcel will be estimated by an appraiser through the property acquisition process and the owner will be fairly compensated.

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Impacted businesses that rely on railroad spurs to access the BNSF railroad will be reconfigured or relocated, if necessary, to ensure continued access to the BNSF.

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As stated in the comment, the construction of the Corcoran Elevated Alternative would require the relocated of Santa Fe Avenue to the east. The relocation will require additional right-of-way, currently used as internal parking at the ranch office.

The elevated structure proposed at this location may help reduce impacts to parking and circulation at this property. However, the shifting of Santa Fe Avenue may still affect the site's internal operations.

If the project results in the acquisition or direct interference with the existing operations at this property, additional refinement during project design may allow avoidance or further minimization of adverse effects. Access to properties will be maintained or the affected property (or portion of) may be compensated as determined during final design and right-of-way phases of the project.

BO118-19

As stated in the comment, the construction of the Corcoran Elevated Alternative would require the relocated of Santa Fe Avenue to the east. The relocation will require additional right-of-way, currently used as internal parking at the ranch office.

The elevated structure proposed at this location may help reduce impacts to parking and circulation at this property. However, the shifting of Santa Fe Avenue may still affect the site's internal operations.

If the project results in the acquisition or direct interference with the existing operations at this property, additional refinement during project design may allow avoidance or further minimization of adverse effects. Access to properties will be maintained or the affected property (or portion of) may be compensated as determined during final design and right-of-way phases of the project.

BO118-20

According to FRA methodology, industrial land uses are not considered noise-sensitive areas, because in general, activities within these buildings are compatible with higher noise levels (FTA 2006).

BO118-21

Refer to Standard Response FB-Response-TR-02.

The Authority will ensure compensation for the replacement, redesign, or relocation of truck parking at the agricultural processing facility. See TR MM#1- Access Maintenance for Property Owners, which says that during construction, access with be maintained for owners to their property to a level that maintains pre-project viability of the property for its pre-project use. If a proposed road closure restricts current access to a property, alternative access via connections to existing roadways will be provided. If adjacent road access is not available, new road connections will be prepared, if feasible. If alternative road access is not feasible, the property will be considered for acquisition.

BO118-22

Refer to Standard Response FB-Response-PU&E-03.

There are many utilities within or crossing the Study Area for the proposed HST and associated facilities. The proposed project would avoid, protect or reroute potentially affected existing public utility infrastructure. Underground wet utilities, such as sewers, are conveyed inside a pipeline material with a service life typically of 50 years or more. The Authority would work with utility owners during final engineering design and construction of the project to relocate utilities or protect them in place. Where existing underground sewer pipelines cross the HST alignment, the utilities would be placed in a protective casing so that future maintenance could be accomplished outside of the HST right-of-way. The project construction contractor would coordinate schedules for utility relocations and protection-in-place with the utility owner to ensure the project would not result in prolonged disruption of services. Refer to Section 3.6.5.

Based on the current level of design, the sewer service line serving Boswell facilities would, upon agreement between the Authority and the public service provider, be replaced and rerouted at the expense of the Authority. The Authority's construction

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BO118-22

contractor will coordinate schedules for its relocation to ensure the project will either minimize or eliminate the potential for disruption of service to affected users.

BO118-23

The North entrance to the J.G. Boswell west processing site appears to be off Sherman Avenue. The HST Alignment will cross over Sherman Avenue, Whitley Avenue, and Brokaw Avenue on an aerial structure. Refer to Appendix A, Road Crossings, of the Final EIR/EIS for more details. During right-of-way review, the option of relocating the entrance to a different location on Sherman Avenue will be considered in consultation with the property owner. Access to properties will be maintained or the affected property (or portion thereof) may be compensated as determined during final design and right-of-way phases of the project.

BO118-24

Refer to Standard Response FB-Response-GENERAL-01, FB-Response-GENERAL-21, FB-Response-SO-01, FB-Response-SO-03.

For information about the impacts on commercial and industrial businesses in communities, see the Revised DEIR/Supplemental DEIS, Volume I, Section 3.12, Impact SO #11, and also Impact SO #12 and SO #16 for effects on agricultural businesses. For information on the property acquisition and compensation process, see Volume II, Appendix 3.12-A.

At this stage of project design, identifying the individual circumstances surrounding the acquisition of land on each parcel is not possible. Instead of specific individual impacts, the EIR/EIS provides an overall analysis of commercial, industrial, and residential displacements and the economic effects of such displacements to the communities affected by the project. This provides the general public and decision makers with an understanding of the nature and magnitude of the impacts. The final full and partial parcel acquisition decisions will ultimately be determined on a case-by-case basis during the land acquisition phase of the project, see Appendix 3.12-A for more information on the property acquisition and compensation procedures.

BO118-24

At the location of the J.G. Boswell facility the Corcoran Elevated alternative would travel through the site along the existing BNSF railway corridor and require shifting Santa Fe Avenue eastward. Some property may be required to accommodate this shift; however, it would not result in the displacement of any silos or structures immediately adjacent to the road. Some modifications to the BNSF railway spurs may be required, but access to and from the J.G. Boswell facility will be maintained. Any direct loss of land or diminution in value to a property owner's parcel will be estimated by an appraiser through the property acquisition process and the owner will be fairly compensated.

BO118-25

Refer to Standard Response FB-Response-GENERAL-04, FB-Response-HMW-02, FB-Response-SO-01.

The permanent right-of-way for the Corcoran Elevated or BNSF Alternative would include a portion of the Boswell property adjacent to the existing freight track and/or Santa Fe Avenue. Any of Boswells' surface drainage infrastructure located within the project ROW would need to be relocated. The Authority will fairly compensate land owners during the right-of-way acquisition process for relocation of existing drainage infrastructure. If relocated drainage systems would need to be re-permitted, compensation would also include regulatory costs. A setting pond may be affected on the southern portion of the site by the BNSF Alternative. If this pond is affected than the grading may need to be redesigned in this portion of the site.

Please also note that further refinement has been made to the alignment alternatives since issuance of the Draft EIR/EIS, as described in the Revised DEIR/Supplemental DEIS. The BNSF and Corcoran Elevated alternatives would be on an aerial structure in southeast Corcoran in the vicinity of the Sherman Avenue crossing. Drainage systems within portions of elevated track would collect and drain stormwater to the ground through downspouts at the columns located every 100 to 120 feet along the alignment. Drainage from the downspouts would typically infiltrate within the HST rights-of-way or be conveyed parallel to the overhead track to a nearby stormwater collection system. Runoff from the project would not be discharged directly to private property. Santa Fe Avenue would be realigned under the Corcoran Elevated Alternative and the existing freight rail tracks for the Boswell Spur would be realigned under the BNSF Alternative.

Response to Submission BO118 (Raymond Carlson, J.G. Boswell Company (Atty. for), Griswold, LaSalle, Cobb, Dowd & Gin LLP (GLCDG), October 13, 2011) - Continued

BO118-25

Drainage management for Santa Fe Avenue or the freight rail rights-of-way would meet or exceed current practices. Detailed grading and drainage plans will be prepared by the design-build contractor based on the design standards described in Standard Response FB-Response-HWR-02. In addition, engineers participating in the right-of-way acquisition process will ensure that site-specific drainage impacts to neighboring properties are not created.

BO118-26

Refer to Standard Response FB-Response-GENERAL-01, FB-Response-GENERAL-21, FB-Response-SO-01, FB-Response-SO-03.

For information about the impacts on commercial and industrial businesses in communities, see the Revised DEIR/Supplemental DEIS, Volume I, Section 3.12, Impact SO #11, and also Impact SO #12 and SO #16 for effects on agricultural businesses. For information on the property acquisition and compensation process, see Volume II, Appendix 3.12-A.

At this stage of project design, identifying the individual circumstances surrounding the acquisition of land on each parcel is not possible. Instead of specific individual impacts, the EIR/EIS provides an overall analysis of commercial, industrial, and residential displacements and the economic effects of such displacements to the communities affected by the project. This provides the general public and decision makers with an understanding of the nature and magnitude of the impacts. The final full and partial parcel acquisition decisions will ultimately be determined on a case-by-case basis during the land acquisition phase of the project, see Appendix 3.12-A for more information on the property acquisition and compensation procedures.

At the location of the J.G. Boswell facility the Corcoran Elevated alternative would travel through the site along the existing BNSF railway corridor and require shifting Santa Fe Avenue eastward. Some property may be required to accommodate this shift; however, it would not result in the displacement of any silos or structures immediately adjacent to the road. If disruptions occur as a result of the HST project which affects the operating capacity of the cotton gin, the business owner will be fairly compensated for any losses associated with reconfiguring facilities or regulatory costs. Any direct loss of land or

BO118-26

diminution in value to a property owner's parcel will be estimated by an appraiser through the property acquisition process and the owner will be fairly compensated. Additionally, the EIR/EIS includes a commitment (see Chapter 3.14.6, Project Design Features) to assist agricultural facility owners in obtaining new or amended permits for the continued operation of their facilities.

BO118-27

Refer to Standard Response FB-Response-PU&E-03.

There are many utilities within or crossing the Study Area for the proposed HST and associated facilities. The proposed project would avoid, protect or reroute potentially affected existing public utility infrastructure. Where existing communication cables cross the HST alignment, the utilities would be placed in a protective casing so that future maintenance could be accomplished outside of the HST right-of-way. The project construction contractor would coordinate schedules for utility relocations and protection-in-place with the utility owner to ensure the project would not result in prolonged disruption of services. Refer to Section 3.6.5.

Based on the current level of design, the fiber optic communication cable potentially affected by the Corcoran Elevated Alternative will, upon agreement between the Authority and the public service provider, be replaced and rerouted in a conduit at the expense of the Authority. The Authority's construction contractor will coordinate schedules for utility relocation with the service provider to ensure the project will either minimize or eliminate the potential for disruption of service to affected users.

BO118-28

The reference to "private airport" in the Draft EIR/EIS meant the Salyer airport.

BO118-29

The Draft EIR/EIS incorrectly identified a significant safety impact of the HST system on Salyer airport. Additional safety analyses were conducted for the Revised DEIR/Supplemental DEIS, and the conclusion has been changed to less than significant as a result of those analyses.

Response to Submission BO118 (Raymond Carlson, J.G. Boswell Company (Atty. for), Griswold, LaSalle, Cobb, Dowd & Gin LLP (GLCDG), October 13, 2011) - Continued

BO118-30

The Draft EIR/EIS incorrectly identified a significant safety impact of the HST System on Salyer Farms Airport. Additional safety analyses were conducted for the Revised DEIR/Supplemental DEIS, and the conclusion has been changed to less than significant as a result of those analyses.

BO118-31

The Revised DEIR/Supplemental DEIS has been modified to delete the mitigation measure for Salyer airport. The project would not have a significant safety impact on the airport, as described in Section 3.11 of the Revised DEIR/Supplemental DEIS.

BO118-32

When this comment was drafted, the BNSF Alternative was proposed to be at-grade with an offsite overcrossing at Whitely Avenue and an onsite overcrossing at Sherman Avenue. The BNSF Alternative was redesigned to be located on an aerial structure through the J.G. Bowell property in the Revised DEIR/Supplemental DEIS.

As depicted in Appendix A, Road Crossings, of the Final EIR/EIS, Santa Fe Avenue is not proposed to be closed in the Final EIR/EIS. Santa Fe Avenue is proposed to be shifted to the east of the existing alignment as to avoid the proposed HST aerial structure. The intersection of Pickerill and Santa Fe would be reconstructed. The HST alignment will cross over Sherman Avenue, Whitley Avenue, and Brokaw Avenue on an aerial structure.
The elevated structure proposed at this location may help reduce impacts on parking and circulation at this property. However, the shifting of Santa Fe Avenue may still affect the site's internal operations.

If the project results in the acquisition or direct interference with the existing operations at this property, additional refinement during project design may allow avoidance or further minimization of adverse effects. Unavoidable impacts may be subject to treatment or compensation. These would be determined during the final design and right-of-way phases of the project.

BO118-33

When this comment was drafted, the BNSF Alternative was proposed to be at-grade with an offsite overcrossing at Whitely Avenue and an onsite overcrossing at Sherman Avenue. The BNSF Alternative was redesigned to be located on an aerial structure through the J.G. Bowell property in the Revised DEIR/Supplemental DEIS.

As stated in Appendix A, Road Crossings, of the Final EIR/EIS, Santa Fe Avenue is not proposed to be closed in the Final EIR/EIS. Santa Fe Avenue is proposed to be shifted to the east of the existing alignment as to avoid the proposed HST aerial structure. The intersection of Pickerill and Santa Fe would be reconstructed. The HST Alignment will cross over Sherman Avenue, Whitley Avenue, and Brokaw Avenue on an aerial structure.

The elevated structure proposed at this location may help reduce impacts on access and circulation at this property. However, the shifting of Santa Fe Avenue may still affect the site's internal operations.

Within the Revised DEIR/Supplemental DEIS, additional traffic analysis in the City of Corcoran was performed and added to Section 3.2 as Impact TR #15 – Impacts on the City of Corcoran Local Roadway Network due to Road Closures.

BO118-34

When this comment was drafted, the BNSF Alternative was proposed to be at-grade with an offsite overcrossing at Whitely Avenue and an onsite overcrossing at Sherman Avenue. The BNSF Alternative was redesigned to be located on an aerial structure through the J.G. Bowell property within the Revised DEIR/Supplemental DEIS.

As depicted in Appendix A, Road Crossings, of the Final EIR/EIS, Santa Fe Avenue is not proposed to be closed in the Final EIR/EIS. Santa Fe Avenue is proposed to be shifted to the east of the existing alignment as to avoid the proposed HST aerial structure. The intersection of Pickerill and Santa Fe would be reconstructed. The HST Alignment will cross over Sherman Avenue, Whitley Avenue, and Brokaw Avenue, and the freight rail spur on an aerial structure. The elevated structure proposed at this location may help reduce impacts on the cotton module storage yard and east facility

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BO118-34

cotton-ginning operations at this property. However, the shifting of Santa Fe Avenue may still affect the site's internal operations.

If the project results in the acquisition or direct interference with the existing operations at this property, additional refinement during project design may allow avoidance or further minimization of adverse effects. Unavoidable impacts may be subject to treatment or compensation. These would be determined during the final design and right-of-way phases of the project.

BO118-35

When this comment was drafted, the BNSF Alternative was proposed to be at-grade with an offsite overcrossing at Whitely Avenue and an onsite overcrossing at Sherman Avenue. The BNSF Alternative was redesigned to be located on an aerial structure through the J.G. Bowell property within the Revised DEIR/Supplemental DEIS.

If the project results in the acquisition or direct interference with the existing operations at this property, additional refinement during project design may allow avoidance or further minimization of adverse effects. Access to properties will be maintained or the affected property (or portion of) may be compensated as determined during the final design and right-of-way phases of the project.If the project results in the acquisition or direct interference with the existing operations at this property, additional refinement during project design may allow avoidance or further minimization of adverse effects. Unavoidable impacts may be subject to treatment or compensation. These would be determined during the final design and right-of-way phases of the project.

BO118-36

When this comment was drafted, the BNSF Alternative was proposed to be at-grade with an offsite overcrossing at Whitely Avenue and an onsite overcrossing at Sherman Avenue. The BNSF Alternative was redesigned to be located on an aerial structure through the J.G. Bowell property in the Revised DEIR/Supplemental DEIS.

As depicted in Appendix A, Road Crossings, of the Final EIR/EIS, Santa Fe Avenue is not proposed to be closed in the Final EIR/EIS. Santa Fe Avenue is proposed to be shifted to the east of the existing alignment as to avoid the proposed HST aerial

BO118-36

structure. The intersection of Pickerill and Santa Fe would be reconstructed. The HST Alignment will cross over Sherman Avenue, Whitley Avenue, and Brokaw Avenue on an aerial structure.
The elevated structure proposed at this location may help reduce impacts on traffic patterns and circulation at this property. However, the shifting of Santa Fe Avenue may still affect the site's internal operations.

If the project results in the acquisition or direct interference with the existing operations at this property, additional refinement during project design may allow avoidance or further minimization of adverse effects. Unavoidable impacts may be subject to treatment or compensation. These would be determined during the final design and right-of-way phases of the project.

BO118-37

Refer to Standard Response FB-Response-AQ-04.

BO118-38

The Revised DEIR/Supplemental DEIS discusses microscale PM10/PM2.5 impacts in Section 3.3.6.3. The PM10/PM2.5 hot-spot analysis does consider localized impacts in areas where stations and HMF sites would be located. The microscale analysis examines locations where traffic intersections are degraded to LOS D, E, or F due to diesel vehicles, in addition to areas within 1,000 feet of the project alignment footprint.

BO118-39

Refer to Standard Response FB-Response-AQ-01.

BO118-40

Refer to Standard Response FB-Response-AQ-01.

The air quality analysis has identified emissions impacts from the project during the construction phase. The regional significant construction emissions impacts will be completely offset to below a level of significance through the Voluntary Emissions Reduction Agreement between the Authority and the San Joaquin Valley Air Pollution

Response to Submission BO118 (Raymond Carlson, J.G. Boswell Company (Atty. for), Griswold, LaSalle, Cobb, Dowd & Gin LLP (GLCDG), October 13, 2011) - Continued

BO118-40

Control District. Therefore, impacts on monitoring stations on a regional level would be less than significant.

BO118-41

Refer to Standard Response FB-Response-SO-03.

Some property at the J.G. Boswell facility may be required to accommodate the construction of the HST and a shift in BNSF railway or Santa Fe Avenue, depending on the alternative selected. However, it is not anticipated that any silos or structures immediately adjacent to the road would be displaced. The final parcel acquisition decisions will ultimately be determined on a case-by-case basis during the land acquisition phase of the project, see Appendix 3.12-A for more information on the property acquisition and compensation procedures. Compensation for property acquisition includes the costs associated with obtaining any license, permit, or certification required for the particular business to continue operation.

BO118-42

Refer to Standard Response FB-Response-SO-03.

BO118-43

Refer to Standard Response FB-Response-GENERAL-04, FB-Response-HWR-02.

Please also note that further refinement has been made to the alignment alternatives since issuance of the Draft EIR/EIS, as described in the Revised DEIR/Supplemental DEIS. The BNSF and Corcoran Elevated alternatives will be on an aerial structure in south-east Corcoran at the Whitley Avenue and Sherman Avenue crossings. Drainage systems within portions of elevated track would collect and drain stormwater to the ground through downspouts at the columns. Depending upon location, drainage from the downspouts would be retained onsite, discharged to a detention basin, conveyed to a nearby stormwater collection system, or dispersed in a non-erosive fashion. Runoff from the project would not be discharged directly to private property.

BO118-44

Refer to Standard Response FB-Response-GENERAL-04, FB-Response-HWR-02.

Please also note that further refinement has been made to the alignment alternatives since issuance of the Draft EIR/EIS, as described in the Revised DEIR/Supplemental DEIS. The BNSF and Corcoran Elevated alternatives will be on an aerial structure in south-east Corcoran at the Whitley Avenue and Sherman Avenue crossings. Drainage systems within portions of elevated track would collect and drain stormwater to the ground through downspouts at the columns. Depending upon location, drainage from the downspouts would be retained onsite, discharged to a detention basin, conveyed to a nearby stormwater collection system, or dispersed in a non-erosive fashion. Runoff from the project would not be discharged directly to private property.

BO118-45

Refer to Standard Response FB-Response-SO-05, FB-Response-GENERAL-05.

See the Revised DEIR/Supplemental DEIS, Volume I, Section 3.12, Impact SO #3, Impact SO #4, and Impact SO #13, for effects on property and sales tax revenues.

BO118-46

Refer to Standard Response FB-Response-N&V-03, FB-Response-N&V-05, FB-Response-SO-01, FB-Response-SO-03, FB-Response-SO-04, FB-Response-GENERAL-01.

Potential project noise impacts have been assessed at sensitive receivers, and these areas are identified in Volume I, Section 3.4, Noise and Vibration, subsection 5, Environmental Consequences. This includes the "additive noise effect" of the existing rail operations. For a complete description of the methodology and analysis see the Fresno to Bakersfield Section: Noise and Vibration Technical Report (Authority and FRA 2012i).

For information on the impact on the community of Corcoran, see Volume I, Section 3.12: Impact SO#7, Impact SO#10, and Mitigation Measure SO-1. For information on the impacts on communities and on the potential for physical deterioration, see Volume I, Section 3.12, Impact SO #17. Also see Volume I, Section 3.12, Mitigation Measure

Response to Submission BO118 (Raymond Carlson, J.G. Boswell Company (Atty. for), Griswold, LaSalle, Cobb, Dowd & Gin LLP (GLCDG), October 13, 2011) - Continued

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SO-7.

For information on the impacts on commercial and industrial businesses in communities, see Volume I, Section 3.12, Impact SO #11. For information on the property acquisition and compensation process, see Volume II, Technical Appendix 3.12-A.Also see the Fresno to Bakersfield Section: Community Impact Assessment Technical Report, Appendix B (Authority and FRA 2012a), for a discussion of the JG Boswell Company in the community baseline data.

At this stage of project design, identifying the individual circumstances surrounding the acquisition of land on each parcel is not possible. Instead of specific individual impacts, the EIR/EIS provides an overall analysis of commercial, industrial, and residential displacements and the economic effects of such displacements to the communities affected by the project. This provides the general public and decision makers with an understanding of the nature and magnitude of the impacts. The final full and partial parcel acquisition decisions will ultimately be determined on a case-by-case basis during the land acquisition phase of the project, see Appendix 3.12-A for more information on the property acquisition and compensation procedures.

At the location of the J.G. Boswell facility the Corcoran Elevated alternative would travel through the site along the existing BNSF railway corridor and require shifting Santa Fe Avenue eastward. Some property may be required to accommodate this shift; however, it would not result in the displacement of any silos or structures immediately adjacent to the road. Some modifications to the BNSF railway spurs may be required, but access to and from the J.G. Boswell facility will be maintained. Any direct loss of land or diminution in value to a property owner's parcel will be estimated by an appraiser through the property acquisition process and the owner will be fairly compensated.

BO118-47

Refer to Standard Response FB-Response-PU&E-03.

There are many utilities within or crossing the Study Area for the proposed HST and associated facilities. The proposed project would avoid, protect or reroute potentially affected existing public utility infrastructure. The Authority would work with utility owners during final engineering design and construction of the project to relocate utilities or protect them in place. Where existing underground pipelines cross the HST alignment, the utilities would be placed in a protective casing so that future maintenance could be accomplished outside of the HST right-of-way. The project construction contractor would coordinate schedules for utility relocations and protection-in-place with the utility owner to ensure the project would not result in prolonged disruption of services. Refer to Section 3.6.5.

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during final engineering design and construction of the project to relocate utilities or protect them in place. Where existing underground pipelines cross the HST alignment, the utilities would be placed in a protective casing so that future maintenance could be accomplished outside of the HST right-of-way. The project construction contractor would coordinate schedules for utility relocations and protection-in-place with the utility owner to ensure the project would not result in prolonged disruption of services. Refer to Section 3.6.5.

Based on the current level of design, access to the 6-inch diameter high-pressure natural gas line along the east side of BNSF operation will, upon agreement between the Authority and the Pacific Gas and Electric Company, be relocated or redesigned at the expense of the Authority. The Authority's construction contractor will coordinate schedules for utility relocations or re-design with the service provider to ensure the project will either minimize or eliminate the potential for disruption of service to affected users.

BO118-48

Refer to Standard Response FB-Response-PU&E-03.

There are many utilities within or crossing the Study Area for the proposed HST and associated facilities. The proposed project would avoid, protect or reroute potentially affected existing public utility infrastructure. The Authority would work with utility owners during final engineering design and construction of the project to relocate utilities or protect them in place. Where existing underground pipelines cross the HST alignment, the utilities would be placed in a protective casing so that future maintenance could be accomplished outside of the HST right-of-way. The project construction contractor would coordinate schedules for utility relocations and protection-in-place with the utility owner to ensure the project would not result in prolonged disruption of services. Refer to Section 3.6.5.

Based on the current level of design, the natural gas pressure reducing station at the northeast corner of the Boswell property and its associated delivery lines will, upon agreement between the Authority and the Pacific Gas and Electric Company, be relocated or redesigned at the expense of the Authority. The Authority's construction

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contractor will coordinate schedules for utility relocations or re-design with the service provider to ensure the project will either minimize or eliminate the potential for disruption of service to affected users.

BO118-49

Refer to Standard Response FB-Response-PU&E-03.

There are many utilities within or crossing the Study Area for the proposed HST and associated facilities. The proposed project would avoid, protect or reroute potentially affected existing public utility infrastructure. The Authority would work with utility owners during final engineering design and construction of the project to relocate utilities or protect them in place. Where existing underground pipelines cross the HST alignment, the utilities would be placed in a protective casing so that future maintenance could be accomplished outside of the HST right-of-way. The project construction contractor would coordinate schedules for utility relocations and protection-in-place with the utility owner to ensure the project would not result in prolonged disruption of services. Refer to Section 3.6.5.

Based on the current level of design, the medium-pressure natural gas line beneath Sherman Avenue will, upon agreement between the Authority and the Pacific Gas and Electric Company, be relocated or protected in-place at the expense of the Authority. The Authority's construction contractor will coordinate schedules for utility relocations or re-design with the service provider to ensure the project will either minimize or eliminate the potential for disruption of service to affected users.

BO118-50

Refer to Standard Response FB-Response-PU&E-03.

There are many utilities within or crossing the Study Area for the proposed HST and associated facilities. The proposed project would avoid, protect or reroute potentially affected existing public utility infrastructure. The Authority would work with utility owners during final engineering design and construction of the project to relocate utilities or protect them in place. Where existing underground pipelines cross the HST alignment, the utilities would be placed in a protective casing so that future maintenance could be accomplished outside of the HST right-of-way. The project construction contractor would coordinate schedules for utility relocations and protection-in-place with the utility owner to ensure the project would not result in prolonged disruption of services. Refer to Section 3.6.5.

Based on the current level of design, the 3-inch diameter medium-pressure natural gas line into the Boswell West Processing will, upon agreement between the Authority and the Pacific Gas and Electric Company, be relocated or protected in-place at the expense of the Authority. The Authority's construction contractor will coordinate schedules for utility relocations or re-design with the service provider to ensure the project will either minimize or eliminate the potential for disruption of service to affected users.

BO118-51

Refer to Standard Response FB-Response-PU&E-03.

There are many utilities within or crossing the Study Area for the proposed HST and associated facilities. The proposed project would avoid, protect or reroute potentially affected existing public utility infrastructure. The Authority would work with utility owners during final engineering design and construction of the project to relocate utilities or protect them in place. Where existing fiber optic cables cross the HST alignment, the cables would be placed in a protective casing so that future maintenance could be accomplished outside of the HST right-of-way. The project construction contractor would coordinate schedules for utility relocations and protection-in-place with the utility owner to ensure the project would not result in prolonged disruption of services. Refer to Section 3.6.5.

Based on the current level of design, the fiber optic communication cable potentially affected by the Corcoran Elevated Alternative will, upon agreement between the Authority and the public service provider, be replaced and rerouted in a conduit at the expense of the Authority. The Authority's construction contractor will coordinate schedules for utility relocation with the service provider to ensure the project will either minimize or eliminate the potential for disruption of service to affected users.

Response to Submission BO118 (Raymond Carlson, J.G. Boswell Company (Atty. for), Griswold, LaSalle, Cobb, Dowd & Gin LLP (GLCDG), October 13, 2011) - Continued

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Refer to Standard Response FB-Response-PU&E-03.

There are many utilities within or crossing the Study Area for the proposed HST and associated facilities. The proposed project would avoid, protect or reroute potentially affected existing public utility infrastructure. The Authority would work with utility owners during final engineering design and construction of the project to relocate utilities or protect them in place. Where existing underground pipelines cross the HST alignment, the utilities would be placed in a protective casing so that future maintenance could be accomplished outside of the HST right-of-way. The project construction contractor would coordinate schedules for utility relocations and protection-in-place with the utility owner to ensure the project would not result in prolonged disruption of services. Refer to Section 3.6.5.

Based on the current level of design, the potentially affected water service line beneath Sherman Avenue will, upon agreement between the Authority and the service provider, be relocated or protected in-place at the expense of the Authority. The Authority's construction contractor will coordinate schedules for utility relocations or re-design with the service provider to ensure the project will either minimize or eliminate the potential for disruption of service to affected users.

BO118-53

Refer to Standard Response FB-Response-PU&E-03.

There are many utilities within or crossing the Study Area for the proposed HST and associated facilities. The proposed project would avoid, protect or reroute potentially affected existing public utility infrastructure. The Authority would work with utility owners during final engineering design and construction of the project to relocate utilities or protect them in place. Where existing underground pipelines cross the HST alignment, the utilities would be placed in a protective casing so that future maintenance could be accomplished outside of the HST right-of-way. The project construction contractor would coordinate schedules for utility relocations and protection-in-place with the utility owner to ensure the project would not result in prolonged disruption of services. Refer to

BO118-53

Section 3.6.5.

Based on the current level of design, the potentially affected water service line serving the Boswell West Processing site will, upon agreement between the Authority and the service provider, be relocated or protected in-place at the expense of the Authority. The Authority's construction contractor will coordinate schedules for utility relocations or re-design with the service provider to ensure the project will either minimize or eliminate the potential for disruption of service to affected users.

BO118-54

Refer to Standard Response FB-Response-PU&E-03.

There are many utilities within or crossing the Study Area for the proposed HST and associated facilities. The proposed project would avoid, protect or reroute potentially affected existing public utility infrastructure. The Authority would work with utility owners during final engineering design and construction of the project to relocate utilities or protect them in place. Where existing electrical distribution lines cross the HST alignment, the utilities would either be relocated or placed underground in a protective casing so that future maintenance could be accomplished outside of the HST right-of-way. The project construction contractor would coordinate schedules for utility relocations and protection-in-place with the utility owner to ensure the project would not result in prolonged disruption of services. Refer to Section 3.6.5.

Based on the current level of design, the overhead 12-kV electrical service transmission line potentially affected along the east side of Santa Fe Avenue will, upon agreement between the Authority and the Pacific Gas and Electric Company, be placed underground and within a conduit at the expense of the Authority. The Authority's construction contractor will coordinate schedules for utility relocations and protection-in-place with the service provider to ensure the project will either minimize or eliminate the potential for disruption of service to affected users and the community.

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Refer to Standard Response FB-Response-PU&E-03.

Response to Submission BO118 (Raymond Carlson, J.G. Boswell Company (Atty. for), Griswold, LaSalle, Cobb, Dowd & Gin LLP (GLCDG), October 13, 2011) - Continued

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There are many utilities within or crossing the Study Area for the proposed HST and associated facilities. The proposed project would avoid, protect or reroute potentially affected existing public utility infrastructure. The Authority would work with utility owners during final engineering design and construction of the project to relocate utilities or protect them in place. Where existing electrical distribution lines cross the HST alignment, the utilities would either be relocated or placed underground in a protective casing so that future maintenance could be accomplished outside of the HST right-of-way. The project construction contractor would coordinate schedules for utility relocations and protection-in-place with the utility owner to ensure the project would not result in prolonged disruption of services. Refer to Section 3.6.5.

Based on the current level of design, the overhead 12-kV electrical service transmission line potentially affected along the north side of Sherman Avenue Extended would, upon agreement between the Authority and the Pacific Gas and Electric Company, be placed underground and within a conduit at the expense of the Authority. The Authority's construction contractor will coordinate schedules for utility relocations and protection-in-place with the service provider to ensure the project will either minimize or eliminate the potential for disruption of service to affected users and the community.

BO118-56

Refer to Standard Response FB-Response-PU&E-03.

There are many utilities within or crossing the Study Area for the proposed HST and associated facilities. The proposed project would avoid, protect or reroute potentially affected existing public utility infrastructure. The Authority would work with utility owners during final engineering design and construction of the project to relocate utilities or protect them in place. Where existing electrical distribution lines cross the HST alignment, the utilities would either be relocated or placed underground in a protective casing so that future maintenance could be accomplished outside of the HST right-of-way. The project construction contractor would coordinate schedules for utility relocations and protection-in-place with the utility owner to ensure the project would not result in prolonged disruption of services. Refer to Section 3.6.5.

Based on the current level of design, the overhead 12-kV electrical service transmission

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line potentially affected along the north side of Sherman Avenue Extended would, upon agreement between the Authority and the Pacific Gas and Electric Company, be placed underground and within a conduit at the expense of the Authority. The Authority's construction contractor will coordinate schedules for utility relocations and protection-in-place with the service provider to ensure the project will either minimize or eliminate the potential for disruption of service to affected users and the community.

BO118-57

Refer to Standard Response FB-Response-PU&E-03.

There are many utilities within or crossing the Study Area for the proposed HST and associated facilities. The proposed project would avoid, protect or reroute potentially affected existing public utility infrastructure. The Authority would work with utility owners during final engineering design and construction of the project to relocate utilities or protect them in place. Where existing fiber optic cables cross the HST alignment, the cables would be placed in a protective casing so that future maintenance could be accomplished outside of the HST right-of-way. The project construction contractor would coordinate schedules for utility relocations and protection-in-place with the utility owner to ensure the project would not result in prolonged disruption of services. Refer to Section 3.6.5.

Based on the current level of design, the fiber optic communication cable potentially affected between the Boswell East site and Whitley Avenue warehouse agricultural processing sites will, upon agreement between the Authority and the public service provider, be replaced and rerouted in a conduit at the expense of the Authority. The Authority's construction contractor will coordinate schedules for utility relocation with the service provider to ensure the project will either minimize or eliminate the potential for disruption of service to affected users.

BO118-58

Refer to Standard Response FB-Response-PU&E-03.

There are many utilities within or crossing the Study Area for the proposed HST and associated facilities. The proposed project would avoid, protect or reroute potentially

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BO118-58

affected existing public utility infrastructure. The Authority would work with utility owners during final engineering design and construction of the project to relocate utilities or protect them in place. Where existing fiber optic cables cross the HST alignment, the cables would be placed in a protective casing so that future maintenance could be accomplished outside of the HST right-of-way. The project construction contractor would coordinate schedules for utility relocations and protection-in-place with the utility owner to ensure the project would not result in prolonged disruption of services. Refer to Section 3.6.5.

Based on the current level of design, the fiber optic communication cable potentially affected between the Boswell East and West agricultural processing sites will, upon agreement between the Authority and the public service provider, be replaced and rerouted in a conduit at the expense of the Authority. The Authority's construction contractor will coordinate schedules for utility relocation with the service provider to ensure the project will either minimize or eliminate the potential for disruption of service to affected users.

BO118-59

Refer to Standard Response FB-Response-PU&E-03.

There are many utilities within or crossing the Study Area for the proposed HST and associated facilities. The proposed project would avoid, protect or reroute potentially affected existing public utility infrastructure. The Authority would work with utility owners during final engineering design and construction of the project to relocate utilities or protect them in place. Where existing sewer lines cross the HST alignment, the utilities would be placed in a protective casing so that future maintenance could be accomplished outside of the HST right-of-way. The project construction contractor would coordinate schedules for utility relocations and protection-in-place with the utility owner to ensure the project would not result in prolonged disruption of services. Refer to Section 3.6.5.

Based on the current level of design, the sewer service line serving Boswell facilities would, upon agreement between the Authority and the public service provider, be replaced and rerouted at the expense of the Authority. The Authority's construction contractor will coordinate schedules for its relocation to ensure the project will either minimize or eliminate the potential for disruption of service to affected users.

BO118-59

BO118-60

Refer to Standard Response FB-Response-PU&E-03.

There are many utilities within or crossing the Study Area for the proposed HST and associated facilities. The proposed project would avoid, protect or reroute potentially affected existing public utility infrastructure. The Authority would work with utility owners during final engineering design and construction of the project to relocate utilities or protect them in place. Where existing underground pipelines cross the HST alignment, the utilities would be placed in a protective casing so that future maintenance could be accomplished outside of the HST right-of-way. The project construction contractor would coordinate schedules for utility relocations and protection-in-place with the utility owner to ensure the project would not result in prolonged disruption of services. Refer to Section 3.6.5.

Based on the current level of design, the 8-inch diameter water service line serving the Boswell agricultural processing facilities from Sherman Avenue main line will, upon agreement between the Authority and the public service provider, be relocated or protected in-place at the expense of the Authority. The Authority's construction contractor will coordinate schedules for utility relocations or re-design with the service provider to ensure the project will either minimize or eliminate the potential for disruption of service to affected users.

BO118-61

Refer to Standard Response FB-Response-PU&E-03.

There are many utilities within or crossing the Study Area for the proposed HST and associated facilities. The proposed project would avoid, protect or reroute potentially affected existing public utility infrastructure. The Authority would work with utility owners during final engineering design and construction of the project to relocate utilities or protect them in place. Where existing underground pipelines cross the HST alignment, the utilities would be placed in a protective casing so that future maintenance could be

Response to Submission BO118 (Raymond Carlson, J.G. Boswell Company (Atty. for), Griswold, LaSalle, Cobb, Dowd & Gin LLP (GLCDG), October 13, 2011) - Continued

BO118-61

accomplished outside of the HST right-of-way. The project construction contractor would coordinate schedules for utility relocations and protection-in-place with the utility owner to ensure the project would not result in prolonged disruption of services. Refer to Section 3.6.5.

Based on the current level of design, the 8-inch diameter reduced pressure water backflow preventer for the Boswell West Processing will, upon agreement between the Authority and the public service provider, be relocated or protected in-place at the expense of the Authority. The Authority's construction contractor will coordinate schedules for utility relocations or re-design with the service provider to ensure the project will either minimize or eliminate the potential for disruption of service to affected users.

BO118-62

Refer to Standard Response FB-Response-GENERAL-04, FB-Response-HWR-02.

Please also note that further refinement has been made to the alignment alternatives since issuance of the Draft EIR/EIS, as described in the Revised DEIR/Supplemental DEIS. The BNSF and Corcoran Elevated alternatives will be on an aerial structure in south-east Corcoran at the Whitley Avenue and Sherman Avenue crossings. Drainage systems within portions of elevated track would collect and drain stormwater to the ground through downspouts at the columns. Depending upon location, drainage from the downspouts would be retained onsite, discharged to a detention basin, conveyed to a nearby stormwater collection system, or dispersed in a non-erosive fashion. Runoff from the project would not be discharged directly to private property.

BO118-63

When this comment was drafted, the BNSF Alternative was proposed to be at-grade with an off-site overcrossing at Whitely Avenue and an on-site overcrossing at Sherman Avenue. The BNSF Alternative was redesigned to be located on an aerial structure through the J.G. Bowell property within the Revised EIR/EIS.
As depicted in Appendix A, Road Crossings, of the Final EIR/EIS, Santa Fe Avenue is not proposed to be closed within the Final EIR/EIS. Santa Fe Ave is proposed to be shifted to the east of the existing alignment as to avoid the proposed HST aerial

BO118-63

structure. The intersection of Pickerill and Santa Fe would be reconstructed. The HST Alignment will cross over Sherman Avenue, Whitley Avenue, and Brokaw Avenue on an aerial structure.
The elevated structure proposed at this location may help reduce impacts on truck and vehicle access to the north end of the east facility warehouse #2 and #3 at this property. However, the shifting of Santa Fe Avenue may still affect the site's internal operations. If the project results in the acquisition or direct interference with the existing operations at this property, additional refinement during project design may allow avoidance or further minimization of adverse effects. Unavoidable impacts may be subject to damages. These would be determined during final design and right-of-way phases of the project.

BO118-64

The HST Alignment will cross over Sherman Avenue, Whitley Avenue, and Brokaw Avenue on an aerial structure. Refer to Appendix A, Road Crossings, of the Final EIR/EIS for more details.
If the project results in the acquisition or direct interference with the existing operations at this property, additional refinement during project design may allow avoidance or further minimization of adverse effects. Unavoidable impacts may be subject to damages. These would be determined during final design and right-of-way phases of the project.

BO118-65

The HST Alignment will cross over Sherman Avenue, Whitley Avenue, and Brokaw Avenue on an aerial structure. Refer to Appendix A, Road Crossings, of the Final EIR/EIS for more details.
If the project results in the acquisition or direct interference with the existing operations at this property, additional refinement during project design may allow avoidance or further minimization of adverse effects. Unavoidable impacts may be subject to damages. These would be determined during final design and right-of-way phases of the project.

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BO118-66

The HST Alignment will cross over Sherman Avenue, Whitley Avenue, and Brokaw Avenue on an aerial structure. Refer to Appendix A, Road Crossings, of the Final EIR/EIS for more details.
If the project results in the acquisition or direct interference with the existing operations at this property, additional refinement during project design may allow avoidance or further minimization of adverse effects. Unavoidable impacts may be subject to damages. These would be determined during final design and right-of-way phases of the project.

BO118-67

Refer to Standard Response FB-Response-GENERAL-04, FB-Response-HWR-02.

Please also note that further refinement has been made to the alignment alternatives since issuance of the Draft EIR/EIS, as described in the Revised DEIR/Supplemental DEIS. The BNSF and Corcoran Elevated alternatives will be on an aerial structure in south-east Corcoran at the Whitley Avenue and Sherman Avenue crossings. Drainage systems within portions of elevated track would collect and drain stormwater to the ground through downspouts at the columns. Depending upon location, drainage from the downspouts would be retained onsite, discharged to a detention basin, conveyed to a nearby stormwater collection system, or dispersed in a non-erosive fashion. Runoff from the project would not be discharged directly to private property.

BO118-68

Refer to Standard Response FB-Response-PU&E-03.

There are many utilities within or crossing the Study Area for the proposed HST and associated facilities. The proposed project would avoid, protect or reroute potentially affected existing public utility infrastructure. The Authority would work with utility owners during final engineering design and construction of the project to relocate utilities or protect them in place. Where existing underground pipelines cross the HST alignment, the utilities would be placed in a protective casing so that future maintenance could be accomplished outside of the HST right-of-way. The project construction contractor would coordinate schedules for utility relocations and protection-in-place with the utility owner to ensure the project would not result in prolonged disruption of services. Refer to

BO118-68

Section 3.6.5.

Based on the current level of design, the 3-inch diameter natural gas line feeding into the Boswell West Processing site will, upon agreement between the Authority and the Pacific Gas and Electric Company, be relocated or protected in-place at the expense of the Authority. The Authority's construction contractor will coordinate schedules for utility relocations or re-design with the service provider to ensure the project will either minimize or eliminate the potential for disruption of service to affected users.

BO118-69

If the project results in the acquisition or direct interference with the existing operations at this property, additional refinement during project design may allow avoidance or further minimization of adverse effects. Unavoidable impacts may be subject to damages. These would be determined during final design and right-of-way phases of the project.

BO118-70

Refer to Standard Response FB-Response-GENERAL-01, FB-Response-GENERAL-21, FB-Response-SO-01, FB-Response-SO-03.

For information about the impacts on commercial and industrial businesses in communities, see Volume I, Section 3.12, Impact SO #11, and also Impact SO #12 and SO #16 for effects on agricultural businesses. For information on the property acquisition and compensation process, see Volume II, Appendix 3.12-A. Individual acquisition issues will be determined during the acquisition process.

BO118-71

Refer to Standard Response FB-Response-GENERAL-01, FB-Response-GENERAL-21, FB-Response-SO-01, FB-Response-SO-03.

For information about the impacts on commercial and industrial businesses in communities, see the Revised DEIR/Supplemental DEIS, Volume I, Section 3.12, Impact SO #11, and also Impact SO #12 and SO #16 for effects on agricultural

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BO118-71

businesses. For information on the property acquisition and compensation process, see Volume II, Appendix 3.12-A. Individual acquisition issues will be determined during the acquisition process.

BO118-72

Refer to Standard Response FB-Response-GENERAL-01, FB-Response-GENERAL-21, FB-Response-SO-01, FB-Response-SO-03.

For information about the impacts on commercial and industrial businesses in communities, see the Revised DEIR/Supplemental DEIS, Volume I, Section 3.12, Impact SO #11, and also Impact SO #12 and SO #16 for effects on agricultural businesses. For information on the property acquisition and compensation process, see Volume II, Appendix 3.12-A. Individual acquisition issues will be determined during the acquisition process.

BO118-73

Refer to Standard Response FB-Response-GENERAL-01.

The HST project alignment affects two spurs on the west side of the BNSF Railway (BNSF) mainline at Oregon Avenue and between Oregon and Sherman Avenues. The reprovision of these spurs was discussed with the property owner during preliminary design (May 16, 2011), and alternative spur alignments were defined. These are shown on the alignment drawings in Volume III of the Final EIR/EIS. The exact location of the new spurs will be developed during the final design in conjunction with the property owner.

BO118-74

Refer to Standard Response FB-Response-GENERAL-04, FB-Response-HWR-02.

Please also note that further refinement has been made to the alignment alternatives since issuance of the Draft EIR/EIS, as described in the Revised DEIR/Supplemental DEIS. The BNSF and Corcoran Elevated alternatives will be on an aerial structure in south-east Corcoran at the Whitley Avenue and Sherman Avenue crossings. Drainage

BO118-74

systems within portions of elevated track would collect and drain stormwater to the ground through downspouts at the columns. Depending upon location, drainage from the downspouts would be retained onsite, discharged to a detention basin, conveyed to a nearby stormwater collection system, or dispersed in a non-erosive fashion. Runoff from the project would not be discharged directly to private property.

BO118-75

The HST Alignment will cross over Sherman Avenue, Whitley Avenue, and Brokaw Avenue on an aerial structure. Refer to Appendix A, Road Crossings, of the Final EIR/EIS for more details.
If the project results in the acquisition or direct interference with the existing operations at this property, additional refinement during project design may allow avoidance or further minimization of adverse effects. Unavoidable impacts may be subject to damages. These would be determined during final design and right-of-way phases of the project.

BO118-76

Refer to Standard Response FB-Response-GENERAL-01, FB-Response-SO-01.

At this stage of project design, identifying the individual circumstances surrounding the acquisition of land on each parcel is not possible. Instead of specific individual impacts, the EIR/EIS provides an overall analysis of commercial, industrial, and residential displacements and the economic effects of such displacements to the communities affected by the project. This provides the general public and decision makers with an understanding of the nature and magnitude of the impacts. The final full and partial parcel acquisition decisions will ultimately be determined on a case-by-case basis during the land acquisition phase of the project, see Appendix 3.12-A for more information on the property acquisition and compensation procedures.

Some property at the J.G. Boswell facility may be required to accommodate the construction of the HST and a shift in BNSF railway or Santa Fe Avenue, depending on the alternative selected. The Authority will consult with affected businesses before land acquisition to assess potential opportunities to reconfigure land use or buildings, and relocate facilities, as necessary, to minimize the disruption of facility activities and

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BO118-76

services. Although access to some businesses may be detoured for short periods of time during construction, access would always be maintained, see Section 3.2 TR MM#1- Access Maintenance for Property Owners, which says that during construction, access will be maintained for owners to their property to a level that maintains pre-project viability of the property for its pre-project use. If a proposed road closure restricts current access to a property, alternative access via connections to existing roadways will be provided. If adjacent road access is not available, new road connections will be prepared, if feasible. If alternative road access is not feasible, the property will be considered for acquisition. Any direct loss of land or diminution in value to a property owner's parcel will be estimated by an appraiser through the property acquisition process and the owner will be fairly compensated. The final parcel acquisition decisions will ultimately be determined on a case-by-case basis during the land acquisition phase of the project, see Appendix 3.12-A for more information on the property acquisition and compensation procedures.

BO118-77

Refer to Standard Response FB-Response-GENERAL-01, FB-Response-GENERAL-21, FB-Response-SO-01, FB-Response-SO-03.

For information about the impacts on commercial and industrial businesses in communities, see Volume I, Section 3.12, Impact SO #11, and also Impacts SO #12 and SO #16 for effects on agricultural businesses. For information on the property acquisition and compensation process, see Volume II, Appendix 3.12-A. Individual acquisition issues will be determined during the acquisition process.

BO118-78

Refer to Standard Response FB-Response-PU&E-03.

There are many utilities within or crossing the Study Area for the proposed HST and associated facilities. The proposed project would avoid, protect or reroute potentially affected existing public utility infrastructure. The Authority would work with utility owners during final engineering design and construction of the project to relocate utilities or protect them in place. Where existing water wells conflict with the HST alignment, the Authority will work with the affected property owner during right-of-way negotiations to

BO118-78

determine the best way to resolve the conflict. The project construction contractor would coordinate schedules for utility relocations and protection-in-place with the utility owner to ensure the project would not result in prolonged disruption of services. Refer to Section 3.6.5.

Based on the current level of design, the BNSF Alternative may displace a private irrigation well at the southern portion of the Boswell West Site. Upon agreement between the Authority and the owner, taking of the private well used for irrigation would be compensated and/or relocated to a viable location at the expense of the Authority. The Authority's construction contractor will coordinate schedules for such takings or relocations with the owner to ensure the project will either minimize or eliminate the potential for disruption of irrigation operations by affected users.

BO118-79

Refer to Standard Response FB-Response-GENERAL-01, FB-Response-SO-01.

At this stage of project design, identifying the individual circumstances surrounding the acquisition of land on each parcel is not possible. Instead of specific individual impacts, the EIR/EIS provides an overall analysis of commercial, industrial, and residential displacements and the economic effects of such displacements to the communities affected by the project. This provides the general public and decision makers with an understanding of the nature and magnitude of the impacts. The final full and partial parcel acquisition decisions will ultimately be determined on a case-by-case basis during the land acquisition phase of the project, see Appendix 3.12-A for more information on the property acquisition and compensation procedures.

Some property at the J.G. Boswell facility may be required to accommodate the construction of the HST. However, it is not anticipated that any of the cotton module storage yard immediately adjacent to the HST at Whitley Avenue would be displaced. The HST footprint includes utility line relocations in this area, but these will not displace any facilities. The Authority will consult with affected businesses before land acquisition to assess potential opportunities to reconfigure land use or buildings, and relocate facilities, as necessary, to minimize the disruption of facility activities and services.

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BO118-79

Although access to some businesses may be detoured for short periods of time during construction, access would always be maintained, see Section 3.2 TR MM#1- Access Maintenance for Property Owners, which says that during construction, access will be maintained for owners to their property to a level that maintains pre-project viability of the property for its pre-project use. If a proposed road closure restricts current access to a property, alternative access via connections to existing roadways will be provided. If adjacent road access is not available, new road connections will be prepared, if feasible. If alternative road access is not feasible, the property will be considered for acquisition. If disruptions occur as a result of the HST project which affects the operating capacity business, the owner will be fairly compensated for any losses associated with reconfiguring facilities or regulatory costs. The EIR/EIS includes a commitment (see Chapter 3.14.6, Project Design Features) to assist agricultural facility owners in obtaining new or amended permits for the continued operation of their facilities. Any direct loss of land or diminution in value to a property owner's parcel will be estimated by an appraiser through the property acquisition process and the owner will be fairly compensated. The final parcel acquisition decisions will ultimately be determined on a case-by-case basis during the land acquisition phase of the project, see Appendix 3.12-A for more information on the property acquisition and compensation procedures.

BO118-80

Refer to Standard Response FB-Response-GENERAL-04, FB-Response-HWR-02, FB-Response-SO-01.

The permanent right-of-way for the Corcoran Elevated or BNSF Alternative would include a portion of the Boswell property adjacent to the existing freight track and/or Santa Fe Avenue. Any of Boswells' surface runoff gutters and swales located within the project ROW would need to be relocated. The Authority will fairly compensate land owners during the right-of-way acquisition process for relocation of existing drainage infrastructure. If relocated drainage systems would need to be re-permitted, compensation would also include regulatory costs. It is unlikely that the industrial site's grading would need to be completely redesigned because current on-site drainage patterns in areas outside of the HST right-of-way would not be impacted. Boswell's runoff would be pickup at the edge of the HST ROW close to where it now drains to and carried in the same direction and discharged to a similar location.

BO118-80

Please also note that further refinement has been made to the alignment alternatives since issuance of the Draft EIR/EIS, as described in the Revised DEIR/Supplemental DEIS. The BNSF and Corcoran Elevated alternatives will be on an aerial structure in southeast Corcoran in the vicinity of the Sherman Avenue crossing. Drainage systems within portions of elevated track would collect and drain stormwater to the ground through downspouts at the columns located every 100 to 120 feet along the alignment. Drainage from the downspouts would typically infiltrate within the HST rights-of-way or be conveyed parallel to the overhead track to a nearby stormwater collection system. Runoff from the project would not be discharged directly to private property. Santa Fe Avenue would be realigned under the Corcoran Elevated Alternative and the existing freight rail tracks for the Boswell Spur would be realigned under the BNSF Alternative. Drainage management for Santa Fe Avenue or the freight rail rights-of-way would meet or exceed current practices. Detailed grading and drainage plans will be prepared by the design-build contractor based on the design standards described in Standard Response FB-Response-HWR-02. In addition, engineers participating in the right-of-way acquisition process will ensure that site-specific drainage impacts to neighboring properties are not created.

BO118-81

Refer to Standard Response FB-Response-GENERAL-04, FB-Response-HWR-02, FB-Response-SO-01.

The intent is that stormwater runoff from the elevated section of track would not enter Boswell's stormwater drainage system. The BNSF and Corcoran Elevated alternatives would be on an aerial structure in southeast Corcoran in the vicinity of the Sherman Avenue crossing. Drainage systems within portions of elevated track would collect and drain stormwater to the ground through downspouts at the columns located every 100 to 120 feet along the alignment. Drainage from the downspouts would typically infiltrate within the HST rights-of-way or be conveyed parallel to the overhead track to a nearby stormwater collection system. Runoff from the project would not be discharged directly to private property. Santa Fe Avenue would be realigned under the Corcoran Elevated Alternative and the existing freight rail tracks for the Boswell Spur would be realigned under the BNSF Alternative. Drainage management for Santa Fe Avenue or the freight

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rail rights-of-way would meet or exceed current practices. Detailed grading and drainage plans will be prepared by the design-build contractor based on the design standards described in Standard Response FB-Response-HWR-02. In addition, engineers participating in the right-of-way acquisition process will ensure that site-specific drainage impacts to neighboring properties are not created.

There are no overcrossing facilities planned adjacent to Boswell's property. Runoff from the aerial structure will not discharge onto Boswell property or into Boswell drainage facilities. Therefore, the project should not result in any increase in flow to Boswell drainage facilities or any increase in velocity.

BO118-82

Overcrossings will not create "dead air" zones or significantly affect the area's microclimate. Wind flows around structures and very localized and/or minor changes in wind speeds and directions may occur. The distances of local disturbances to the wind flow patterns created by these overcrossings will be affected by the height and width of these structures, and as these structures are not very tall or wide, the potential effects of these changes should be minimal.

BO118-83

Refer to Standard Response FB-Response-GENERAL-01, FB-Response-GENERAL-21, FB-Response-SO-01, FB-Response-SO-03.

At this stage of project design, identifying the individual circumstances surrounding the acquisition of land on each parcel is not possible. Instead of specific individual impacts, the EIR/EIS provides an overall analysis of commercial, industrial, and residential displacements and the economic effects of such displacements to the communities affected by the project. This provides the general public and decision makers with an understanding of the nature and magnitude of the impacts. The final full and partial parcel acquisition decisions will ultimately be determined on a case-by-case basis during the land acquisition phase of the project, see Appendix 3.12-A for more information on the property acquisition and compensation procedures.

Some property at the J.G. Boswell facility may be required to accommodate the

BO118-83

construction of the HST. However, it is not anticipated that the vegetable oil refinery would be displaced. The Authority will consult with affected businesses before land acquisition to assess potential opportunities to reconfigure land use or buildings, as necessary, to minimize the disruption of facility activities and services. Although access to some businesses may be detoured for short periods of time during construction, access would always be maintained, see Section 3.2 TR MM#1- Access Maintenance for Property Owners, which says that during construction, access will be maintained for owners to their property to a level that maintains pre-project viability of the property for its pre-project use. If a proposed road closure restricts current access to a property, alternative access via connections to existing roadways will be provided. If adjacent road access is not available, new road connections will be prepared, if feasible. If alternative road access is not feasible, the property will be considered for acquisition. If disruptions occur as a result of the HST project which affects the operating capacity business, the owner will be fairly compensated for any losses associated with reconfiguring facilities or regulatory costs. The EIR/EIS includes a commitment (see Chapter 3.14.6, Project Design Features) to assist agricultural facility owners in obtaining new or amended permits for the continued operation of their facilities. Any direct loss of land or diminution in value to a property owner's parcel will be estimated by an appraiser through the property acquisition process and the owner will be fairly compensated. The final parcel acquisition decisions will ultimately be determined on a case-by-case basis during the land acquisition phase of the project, see Appendix 3.12-A for more information on the property acquisition and compensation procedures.

BO118-84

The HST alignment will cross over Sherman Avenue, Whitley Avenue, and Brokaw Avenue on an aerial structure. Refer to Appendix A, Road Crossings, of the Final EIR/EIS for more details.

If the project results in the acquisition or direct interference with the existing operations at this property, additional refinement during project design may allow avoidance or further minimization of adverse effects. Unavoidable impacts may be subject to treatment or compensation. These would be determined during the final design and right-of-way phases of the project.

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BO118-85

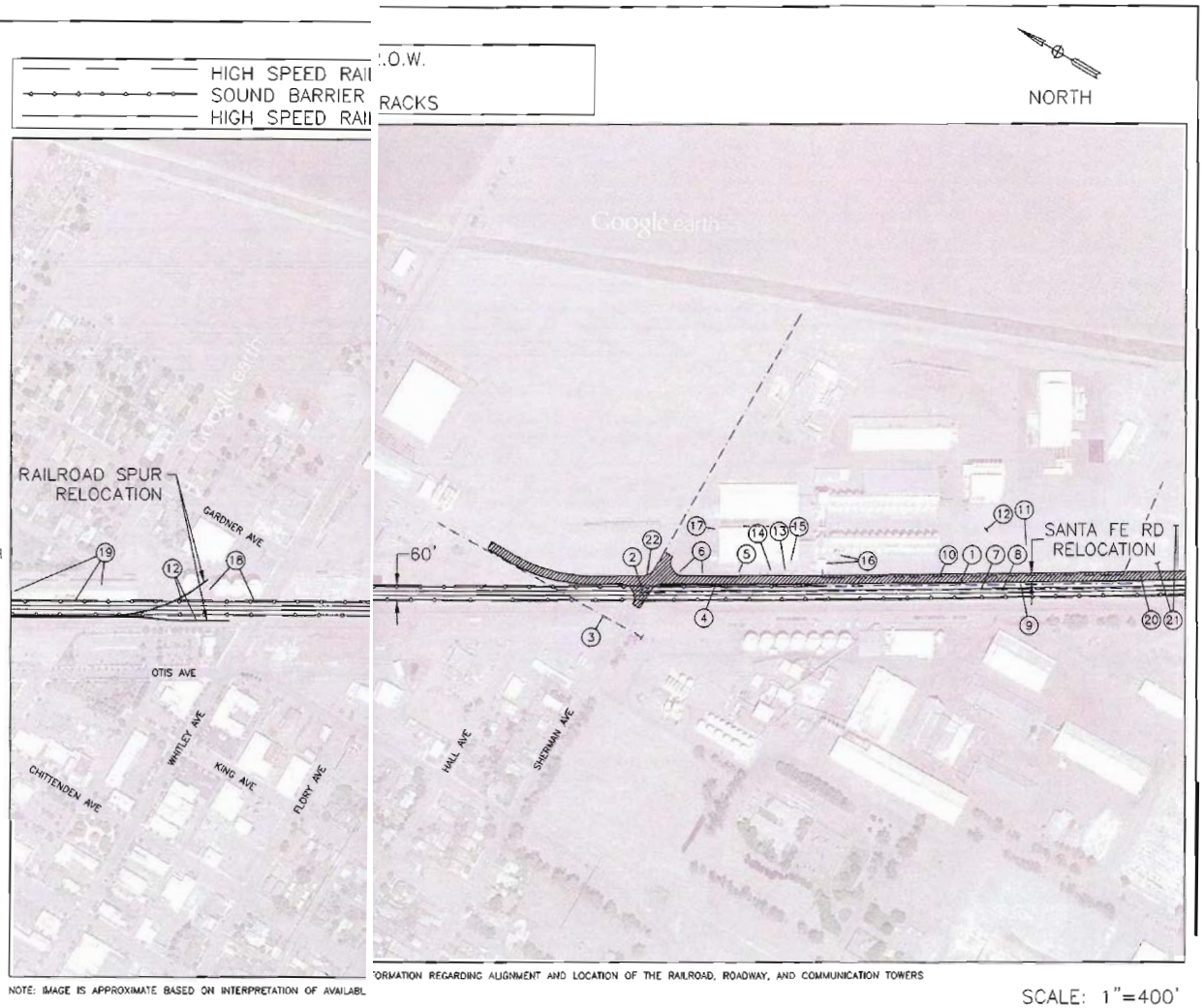
Refer to Standard Response FB-Response-PU&E-03, FB-Response-SO-01.

The Authority is actively assimilating information on existing and planned utilities. The design presented in the Draft EIR/EIS is based on preliminary engineering. The Authority will coordinate with utility owners to refine this information, identifying and evaluating all known facilities within the footprint during future design phases. The Authority intends to consider conflicts with adjacent facilities during the final design and placement of the Nevada Avenue realignment.

Attachment to Submission BO118 (Raymond Carlson, J.G. Boswell Company (Atty. for), Griswold, LaSalle, Cobb, Dowd & Gin LLP (GLCDG), October 13, 2011) - Carlson_Letter_Attachments.pdf

EASTSIDE ELEVATED OPTION:
ASSUMING SANTA FE AVE. IS RELOCATED

1. RELOCATION OF PG&E 12kV OH DISTRIBUTION LINE ALONG EASTSIDE OF SANTA FE AVE.
2. RELOCATION OF CONNECTION POINT OF PG&E 12kV OH DISTRIBUTION LINE EASTERLY ALONG NORTH SIDE OF SHERMAN AVE EXTENDED.
3. REVISION OF PG&E 12 kV OH DISTRIBUTION LINE FROM WEST SIDE OF PICKERELL AVE INTO N.E. CORNER OF JGB WEST SITE.
4. RELOCATION OF UG PULL/SPLICE BOX FOR JGB MAIN FIBER OPTIC COMMUNICATIONS CABLE BETWEEN WEST AND EAST SITES.
5. RELOCATION OF SAMPLING PLATFORM AT CALIFORNIA STATE GRADING STATION.
6. LOSS OF TRUCK PARKING AND TRAFFIC FLOW PATTERN AT THE GRAIN GRADING STATION.
7. RELOCATION OF JGB EAST SITE, MAIN NORTH SOUTH SURFACE RUNOFF COLLECTION SWALE/GUTTER.
8. RELOCATION OF JGB EAST SITE, WEST SIDE SURFACE RUNOFF COLLECTION SUMP AND PUMP STATION.
9. RELOCATION OF PUMPED OUTFLOW LINE ALONG EAST SIDE OF SANTA FE AVE.
10. RELOCATION OF 8" DIAMETER JGB WATER LINE ALONG EAST SIDE OF SANTA FE AVE.
11. RELOCATION OF 12kV SERVICE/METER POLE FOR JGB GIN#5.
12. POSSIBLE INTERFERENCE WITH RAILROAD SPURS INTO EAST SITE AT "D" TANKS.
13. LOSS OF TRUCK PARKING AND TRAFFIC FLOW PATTERN AT RANCH OFFICE (EAST) TRUCK SCALES.
14. LOSS OF RANCH OFFICE PARKING LOT AND TRAFFIC PATTERN.
15. ELEVATED EXPOSURE LEVELS OF NOISE AND VIBRATION TO RANCH OFFICE OCCUPANTS.
16. REDUCED ACCESS, LOSS OF PARKING (STAGING AREA) AND TRUCK TRAFFIC FLOW PATTERN AT WEST ELEVATOR/WEST SIDE LOAD OUTS AND SHANZER DRYER.
17. POSSIBLE REVISION/RELOCATION OF EAST SITE PUMPED SEWER LINE.
18. POSSIBLE LOSS OF ACCESS AND REDUCED TRAFFIC FLOW PATTERN AT JGB "D" TANKS WAREHOUSE.
19. COMPLETE LOSS OF JGB WAREHOUSE "B", TRUCK DOCK, AND RAILROAD SPUR.
20. LOSS OF SURFACE WATER DRAINAGE SYSTEM AT SOUTH END OF EAST SIDE.
21. REDUCED MODULE STORAGE YARD CAPACITIES.
22. POSSIBLE REVISION TO TELEPHONE COMPANIES MAIN FIBER OPTIC COMMUNICATIONS CABLE LOCATION AND COVER.



NOTE: IMAGE IS APPROXIMATE BASED ON INTERPRETATION OF AVAILABL
'ORMATION REGARDING ALIGNMENT AND LOCATION OF THE RAILROAD, ROADWAY, AND COMMUNICATION TOWERS

SCALE: 1"=400'

DATE	PROPOSED HIGH SPEED RAIL ELEVATED AL	FIGURE
10/10/2011	J. G. BOSWE	1-1

:NATIVE C-1 CONFLICTS AND CONCERNS
COMPANY

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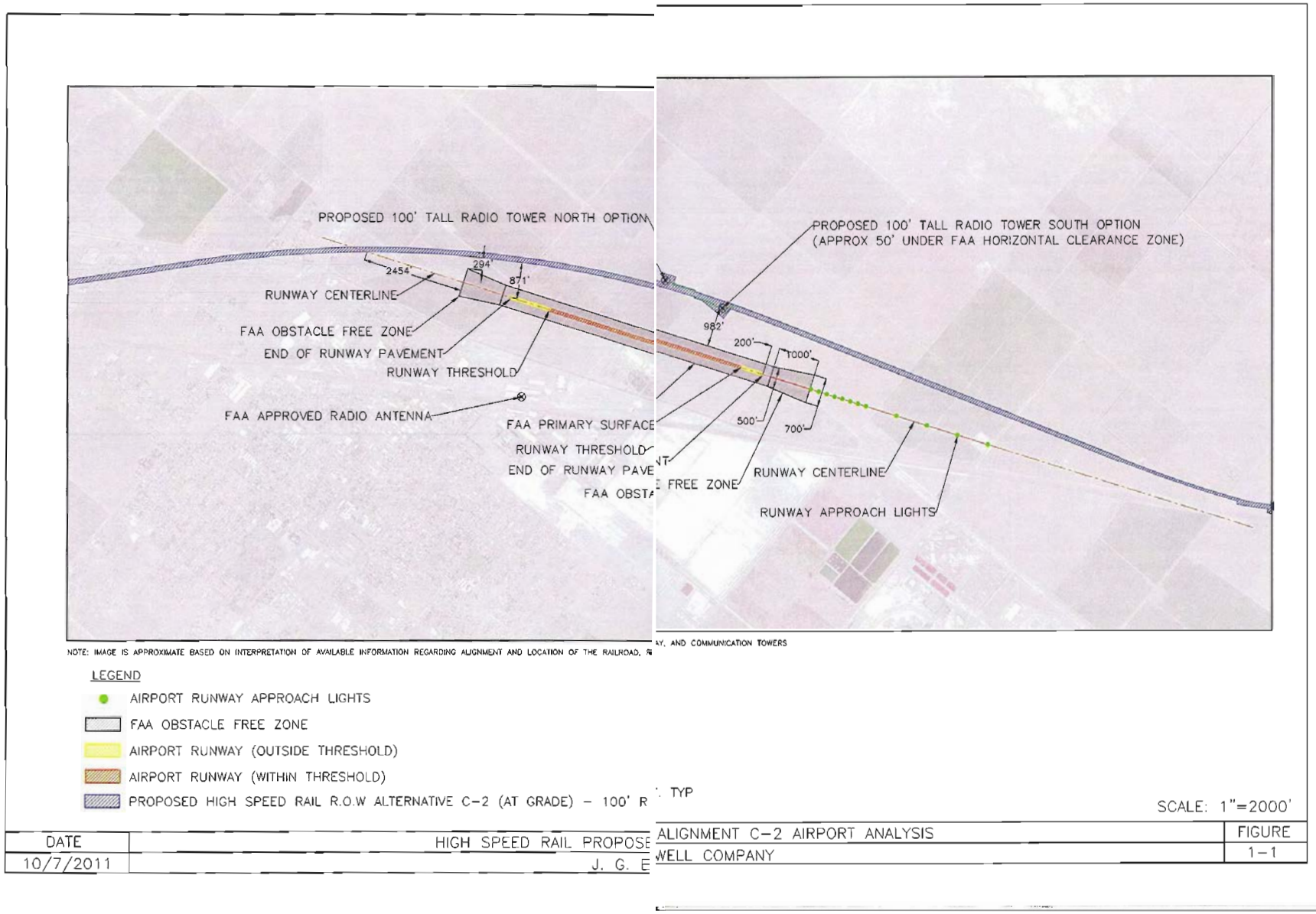

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Dennis C. Tristao
Environmental Services Manager
J.G. Boswell Company
P.O. Box 457
Corcoran, CA 93212

October 7, 2011

Subject: High Speed Rail Corcoran Bypass Alternative Alignment and relation to Salyer Farms Airport

Dear Mr. Tristao:

In accordance with your request, time has been spent reviewing portions of the draft California High-Speed Train Project Environmental Impact Report, Corcoran Bypass Subsection, Alignment C2, as it pertains and relates to the Salyer Farms Airport. Proposed improvements of interest include the elevated, double-track high-speed facility, and a communications tower with two possible locations identified. In performing our analysis, the following documents were reviewed:

A. California High-Speed Train Project EIR/EIS, Fresno to Bakersfield Section
B. FAA Advisory Circular, 150/5300-13, Change 10: Airport Design
C. Federal Aviation Regulations: Part 77, Objections Affecting Navigable Airspace

1. Existing Facilities:

Salyer Farms Airport is a private use facility located at the southwest corner of State Highways 137 and 43, adjacent to the community of Corcoran in Kings County, California.

Major airport facilities include a single asphalt paved runway, 75 feet wide, and three mid-field points of exiting to the adjacent ramp and aircraft storage hangars. The runway is aligned parallel to and approximately 150 feet west of Highway 43 (center to center spacing). The departure length for Runway 14-32 is approximately 6,818 feet. There is approximately 6,204 feet of runway available for a Runway 32 landing, and approximately 6,010 feet in place for landing Runway 14.

Runway markings are consistent with non-precision approach procedure requirements, including runway designation markings, threshold bar, threshold markings, centerline, and side stripes. A displaced threshold configuration exists at each end, and the far north end of the pavement is designated as a blast pad, assumed due to its close proximity to Highway 137.

The runway includes a pilot-controlled edge lighting system with a Visual Approach Slope Indicator (VASI) serving both approaches. The VASI serving Runway 32 is set at a standard 3 degree approach angle. In addition, Runway 32 is served with an approach lighting system similar to a Medium Intensity Approach Lighting System (MALS). The Runway 14 VASI is set at a steeper, 3.5 degree approach angle, intended to provide greater vertical clearance over Highway 137.

2. Critical Aircraft:

Company representatives have identified the Sabre 65 and the Citation XLS as the critical / design aircraft for the facility.

3. Airport Reference Code:

Based on the critical aircraft, the airport is designated as a B-II facility. The letter designation identifies the approach category for the design aircraft. The number designation identifies the airplane design group. These two parameters dictate or directly influence many runway / airport design parameters such as runway width, taxiway width, runway / taxiway separation, object free area dimensions, obstacle free zone dimensions, safety area widths, and runway protection zone dimensions.

Aircraft Approach Category B: Aircraft with approach speeds of 91 knots or more but less than 121 knots.

Airplane Design Group II: Aircraft with a wing span of 49 feet up to but not including 79 feet or a tail height from 20 up to but not including 30 feet.

The proximity of Highway 43 to the runway limits the approach category and the size of aircraft that can use the runway.

4. Approach Protection:

The Runway Protection Zone (RPZ) is the trapezoidal-shaped area off the end of each runway. The provision of the RPZ is to preclude the construction of obstructions potentially hazardous to aircraft and also to control building construction as a protection from nuisance and hazard to people on the ground. Guidelines are intended to keep these zones free of structures and incompatible objects such as fuel handling and storage facilities, misleading lights, smoke and dust generating facilities, items that create glare or attract wildlife, and any development which would create a place of public assembly.

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Control of the land that making up the RPZ by the owner of the airport is strongly encouraged, either through easement or fee-title.

5. Runway Approaches:

A published GPS approach to Runway 32 is in place, with a minimum decision altitude of 560 feet (356 feet above the ground). The approach is non-precision, with visibility minimums greater than 3/4 mile (34:1) The approach to Runway 14 is visual only, not less than 1 mile visibility (20:1). RPZ dimensions for each runway are unique to each end, based on these two distinct approach designations. Each RPZ is dimensionally shown on the attached figures.

6. Runway Protection, Parameters of Concern:

Runway protection is provided by:

A. The Primary Surface. A horizontal imaginary surface, centered on the runway, at runway elevation. Primary surface dimensions are dictated by runway designation and use. With paved runways, the primary surface extends 200 feet beyond each runway end. For Salyer Airport, with a non precision approach (Rwy 32) and visibility minimums greater than 3/4 statute mile, the primary surface is 500 feet wide, centered.

B. The Horizontal Surface. A horizontal imaginary plane, centered on the runway, at an elevation 150 feet above the established airport elevation.

C. The Approach Surface. A surface longitudinally centered on the extended runway centerline, extending outward and upward from each end of the primary surface. Dimensions of the approach surface are related to specific approach parameters for each end of the runway. For Runway 32 (non-precision, instrument) the width of the surface is 500 feet at the end of the primary surface flaring to a width of 3,500 feet at a distance of 10,000 feet from the end of the primary surface. The surface slope is 34:1 (3 percent). For Runway 14, (visual) the width of the surface is 500 feet at the end of the primary surface flaring to a width of 1,500 feet at a distance of 5,000 feet from the end of the primary surface. The surface slope is 20:1 (5 percent).

D. The Transitional Surface. An imaginary surface extending upward and outward from the edge of the primary surface to the horizontal surface, at a rate of one foot vertical rise for every seven feet of horizontal projection (7:1).

E. The Runway Protection Zone (RPZ). The trapezoidal shaped area beyond each end of the runway, of the size and shape as previously defined, based on approach parameters specific to each end.

F. On-Airport Protection. Within the airport, the runway is protected by imaginary surfaces and areas including the Runway safety Area (RSA), the Obstacle Free Zone (OFZ), and the Runway Object Free Area (ROFA).

7. Proposed High-Speed Rail Improvements:

This analysis focused on three components:

A. The railroad itself. Alignment C2 swings in a large sweeping curve around the east side of the City of Corcoran and the Salyer Airport. It is a built-up or viaduct double-track improvement, approximately 800-1,000 feet east of the runway centerline. The analysis considers three points: its approximate parallel alignment east of the runway, its angle point with the northeast corner of the Runway 14 RPZ, and the point at which the rail alignment crosses the projected runway centerline north of the airport.

B. The communication tower; two locations considered. The communications tower will be approximately 100 feet tall. It is assumed it will look similar to a typical cell phone tower; steel lattice structure with attached components. Two locations are considered, each approximately 1,000 feet east of the runway centerline.

8. Railroad Analysis:

FAA design guidelines require a consideration of 23 feet above the track structure as the obstruction analysis height for the railroad. The portion of the track relatively parallel to and east of the runway has a maximum obstruction elevation of 235 feet. This represents a 31 foot high improvement relative to the runway (runway elevation - 204 feet). At approximately 800 feet from the runway centerline, this falls outside the primary surface and 550 feet into the transitional surface. At 7:1 for 550 feet, objects at 78 feet above the runway elevation will intersect the transitional surface. The top of the rail obstruction is estimated to be at 31 feet. In addition, this portion is outside the RPZ and all on-airport protection elements. Therefore, the portion of rail facility parallel to the runway is not considered an obstruction.

The proposed alignment crosses the projected runway centerline about 3,650 feet off the end of the pavement, in close proximity to Waukena Avenue. As a bridge over the top of the railroad, Waukena Avenue will exhibit a top obstruction elevation of 262 feet, 58 feet above the runway. With a 20:1 approach slope, structures reaching to 172 feet above the runway elevation will intercept the approach

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surface. At 3,650 feet, it is physically beyond the primary surface and the RPZ, below the approach surface, and well beyond all on-airport protection elements. The road obstruction will be 58 feet above the end of the runway, therefore the railroad crossing the projected centerline of the runway 3,650 feet off the end of the pavement is not considered an obstruction.

The proposed alignment is in close proximity to the northeast corner of the Runway 14 RPZ. With a B-II designation, visual approach (20:1) the RPZ extends 1,200 feet off the end of the pavement and 350 feet perpendicular to the runway centerline. Based on information provided, it appears the railroad alignment is outside the RPZ by 300 feet at its closest point. The alignment of the railroad at this location is not considered an obstruction.

9. Tower analysis, north and south:

At 100 feet tall, plus the differential elevation change from runway to tower location (+ 5 feet), both towers are below the horizontal surface and below the 7:1 transitional slope. At 900 feet plus away from the runway, each tower location is beyond the primary surface and well beyond all on-airport protection elements. Therefore both proposed locations are not considered obstructions.

10. Conclusions and Recommendations:

A. The railroad and the proposed communication tower (either location) do not appear to present any impact to existing operations at the Salyer Airport.

B. The railroad alignment appears to have been selected with consideration for the runway. The analysis was performed with crude measurements. It is recommended either the designer provide additional supporting documentation reflecting this consideration, or the airport owner perform a more in-depth, confirming analysis using to-scale drawings / cad files of the rail plans.

C. The towers are not considered as obstructions. It is recommended however, that the Authority file with the FAA Form 7460, Notice of Construction or Alteration, and gain FAA approval of the towers. Obstruction lighting is recommended.

D. This analysis was based on our understanding of current operations at Salyer Farms Airport. Future plans that may include faster, larger aircraft, or enhanced navigation aids that would lower decision altitudes and enhance the operational capabilities of the airport should be considered or identified now. The presence of the railroad may impact any future plans for enhanced use of the facility.

E. It could be possible to mitigate minor impacts to the facility with adjustments to thresholds, in the event a further analysis, with more accurate data or revised information regarding current operations, results in identification of an impact to the airport and present operations.

F. Any discussions regarding relocation of the airport due to possible impact from the railroad will become far reaching, with economic and environmental components, both during construction and throughout its life at a different location. Compensation would not necessarily end with the opening of the new facility, but could include ongoing added cost of operations between the new airport and farm operations based in Corcoran.

G. Within the draft EIR/EIS, the distance from centerline to the Salyer Farms Airport (0.18 miles), identified in Table 3.11-5, appears to represent an average, due to the sweeping curve alignment of the railroad. This appears to be adequately represented. The summary statement at the bottom of page 3.11-32 identifying the alignment as being within 0.07 mile of the Salyer Farms Airport appears to be incorrect. Based on information provided, at no point is the proposed alignment within 750 feet of the airport (0.14 mile). Again, no conflict exists between the Salyer Farms Airport facility and present airport operations, and the Corcoran Bypass Subsection, Alignment C2.

Thank you for the opportunity to provide input. Please call with any questions or concerns you may have regarding the information in this letter report.

Sincerely,

TARTAGLIA ENGINEERING

John A. Smith
Principal

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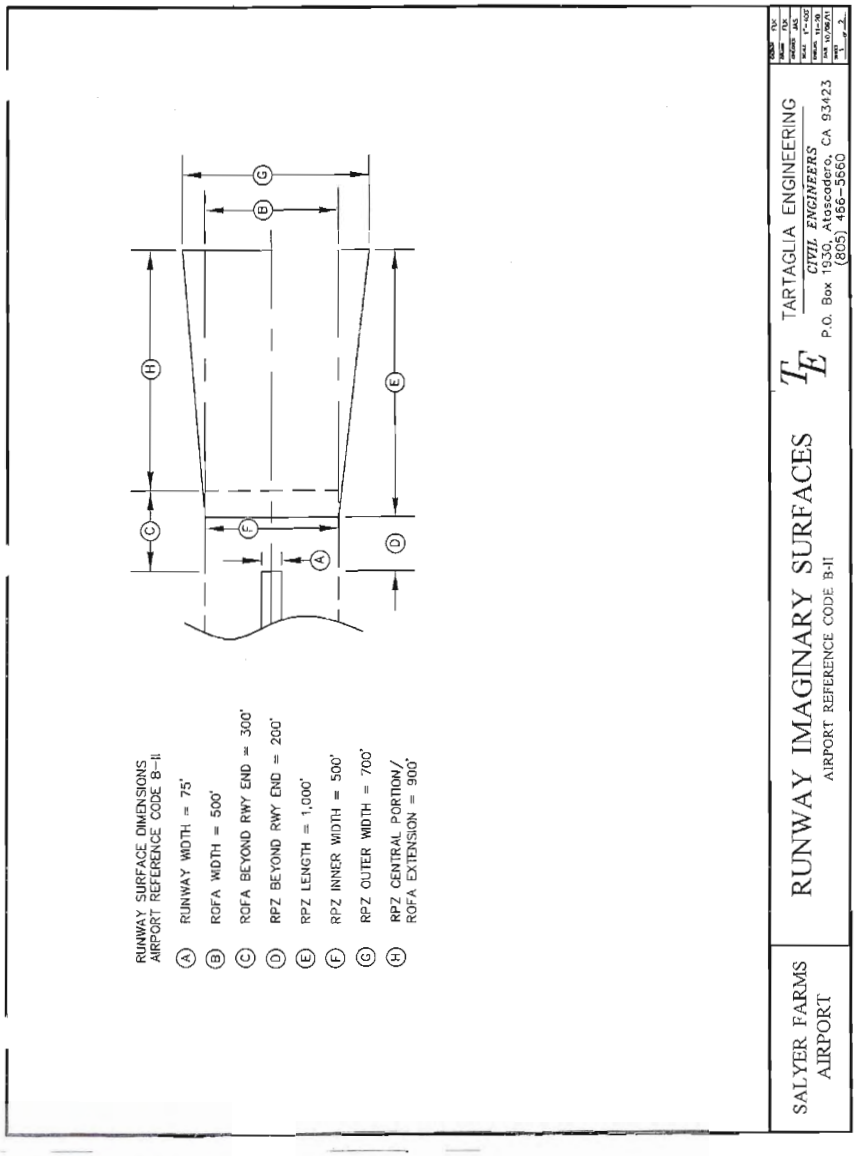

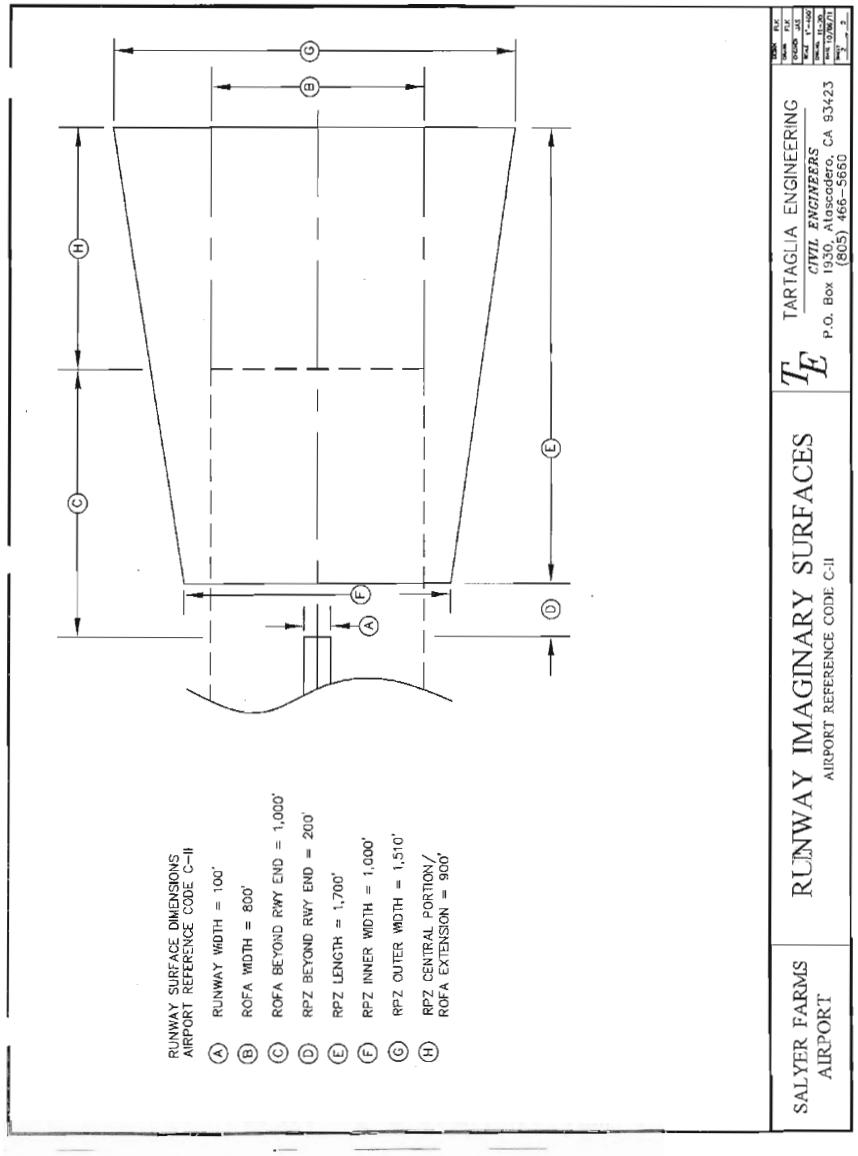

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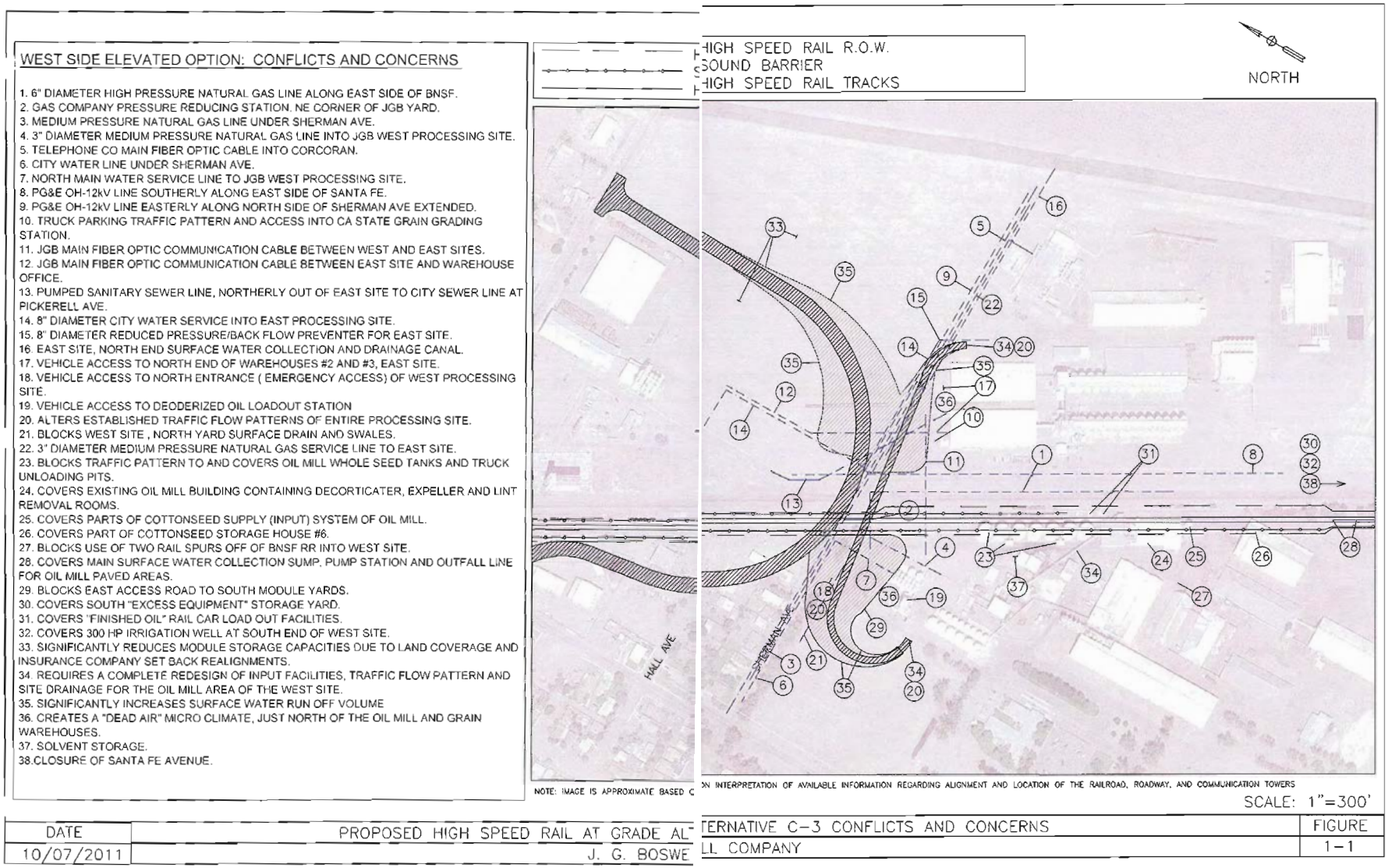

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desert research institute
Energy and Environmental Engineering Center
University and Community College System of Nevada

Final Study Plan for:

Effectiveness Demonstration of Fugitive Dust Control Methods for Public Unpaved Roads and Unpaved Shoulders on Paved Roads

DRI Document No. 685-5200.1F2

August 2, 1996

Principal Investigator:

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1.0 INTRODUCTION

1.1 Background and Motivation

Fugitive dust consists of geological material that is injected into the atmosphere by natural wind and by anthropogenic sources such as paved and unpaved roads, construction and demolition of buildings and roads, storage piles, wind erosion, and agricultural activities. The main chemical constituents of these particles are oxides of silicon, aluminum, and iron, and some calcium compounds. Most of the suspended dust deposits within a short distance of its origin, yet a portion of it can be transported long distances by wind (Chow and Watson, 1992). These suspended particles have been shown to constitute a large fraction of PM_{10} (particles with aerodynamic diameters less than 10 micrometers, Federal Register, 1987a) in many urban and non-urban areas (Watson *et al.*, 1989a; Chow *et al.*, 1993).

Since the promulgation of PM_{10} standards in 1987, a total of 75 "moderate" non-attainment areas (Federal Register, 1991; 1994) and 5 "serious" non-attainment areas (Federal Register, 1993) have been designated by the U.S. Environmental Protection Agency (EPA). Under the 1990 Clean Air Act and its amendments (U.S. Government Printing Office, 1991), states must develop and submit State Implementation Plans (SIPs) which specify the technologies and activities which will be applied to reduce the emissions causing excessive PM_{10} concentrations (Federal Register, 1987b). It is especially unlikely that the PM_{10} standards can be attained in the western U.S., unless significant reductions in fugitive dust emissions are achieved. The U.S. EPA requires estimates of fugitive dust contributions to PM_{10} and identification of control measures in most PM_{10} SIPs (U.S. EPA, 1992).

Emission rates for fugitive dust are difficult to measure or model. The largest emitting categories include dust from unpaved roads, paved roads, construction and demolition, and wind erosion of open soil. There are many subcategories within these major categories, such as paved roads with unpaved shoulders, sanded roads, publicly maintained unpaved roads, unmaintained "desert shortcuts", and agricultural unpaved roads. Less ubiquitous activities, such as golf course turf replacement, feedlot and dairy operations, equestrian events, off-road vehicle competitions, parking lot sweeping, and industrial transfer and storage operations may be large contributors at certain times and places. Though qualitative descriptions of fugitive dust emissions are easy to understand, translating these descriptions into quantitative estimates of emission rates, locations, temporal variability, and contributions to PM_{10} measured at receptors has been a scientific and engineering challenge. While existing emissions inventories may have some validity when annually averaged over the entire U.S., they become much less precise when used to estimate contributions to a single receptor or on a single day which registers a high PM_{10} reading. The current methods of quantifying fugitive dust PM_{10} emissions need improvement.

PM_{10} mass concentrations continue to exceed Federal PM_{10} standards of 50 $\mu g/m^3$ annual arithmetic average and 150 $\mu g/m^3$ 24-hour average at sampling sites within the San Joaquin Valley (SJV). Nearly all of the sampling sites in the SJV have exceeded the California state standards of 30 $\mu g/m^3$ annual geometric average and 50 $\mu g/m^3$ 24-hour average. Long-term compliance monitoring shows that the annual Federal standard was exceeded at 20 sites in 1990, 10 sites in 1991, and 7 sites in both 1992 and 1993. The California PM_{10} 24-hour standard of 50 $\mu g/m^3$ was exceeded at more than 90% of all San Joaquin Valley sites for the five years from 1989 to 1993. Maximum 24-hour PM_{10} concentrations were highest in Kern, Fresno, and Kings Counties.

1.1.1 PM_{10} Emissions From Unpaved Roads and Shoulders

As shown by Chow *et al.* (1992), the major contributing source types to ambient PM_{10} measurements in the San Joaquin Valley (SJV) are not ducted primary emissions, but instead, widely distributed area emitters including fugitive dust, primary engine exhaust, residential and agricultural burning, and gaseous precursors of secondary aerosol. Fugitive dust is the largest contributor to excessive PM_{10} concentrations during the spring, summer, and fall at urban and agricultural sites. Vehicle movements associated with agricultural tilling and harvesting, with transport of agricultural products along unpaved roads, and along paved roads with unpaved shoulders, are believed to cause large contributions to the fugitive dust components in PM_{10}.

Of the estimated 10^6 kg/day of PM_{10} which was estimated to be emitted within the SJV, 1.54 x 10^5 kg/day derives from unpaved road emissions and 1.91 x 10^5 kg/day from paved roads (California Air Resources Board, 1991). Much of the paved road emissions are suspected to be from dust carried out of unpaved roads and subsequently deposited on the paved roads. A second source of dust emissions is from unpaved shoulders along the sides of paved roads. The data base describing the actual lengths of unpaved roads and paved shoulders that provide sources for PM_{10} emissions in the counties within the SJV is limited. However, unpaved road lengths are estimated to be 98 km in Kings County, 129 km in Fresno County, and 930 km in Merced County. Speed limits are not often posted on these roads and most of them are minimally patrolled.

Unpaved roads generally consist of a graded and compacted road bed that is usually created from the parent material present at the site. Well-constructed unpaved roads are usually finished by topping with a hard surface material such as gravel or crushed rock, but this is not always the case. Characteristics of the road surface such as road bed load capacity (Rosbury and Zimmer, 1983), silt content (particles < 74 μm) (Cowherd *et al.*, 1990), and hardness of the surface material have all been considered as variables that affect emission rates. The forces created by the rolling wheels of vehicles remove fine particles from the road bed and also pulverize aggregates lying on the surface. The dust is suspended by the turbulent vehicle wakes and ejected into the air by

the shearing force of the tires (Nicholson *et al.*, 1989). Dust emission rates have been found to depend on the fine particle content of the road (Cowherd *et al.*, 1990), soil moisture content, and vehicle speed (Nicholson *et al.*, 1989). The U.S. EPA (1988) also reported that the emission rate of fine particles was exponentially related to vehicle weight and number of wheels. Dust resuspension from unpaved roads is also affected by natural wind forces. Mud and dust are tracked from unpaved surfaces to paved roads, where particles are resuspended by the generally greater traffic volumes. Unpaved shoulders share similar characteristics with unpaved roads. However, emissions from these surfaces are usually associated with entrainment caused by aerodynamic forces associated with the turbulent wakes of high-speed, high-profile vehicles such as semi-tractor trailers.

The effectiveness of control methods for reducing dust emissions from unpaved roads and shoulders has not been well-measured or documented. The U.S. EPA (1988) examined several fugitive dust control method demonstration projects and found that many of them were poorly designed and yielded inconclusive results. Even when projects were well designed, the benefits of the control application for air quality were often undetectable because the control methods being applied had not been understood or correctly implemented. The assessment of control studies is difficult because the mechanics of particle resuspension from road surfaces is poorly understood. Establishing a standard methodology to evaluate the dust emission rates associated with untreated and treated unpaved road surfaces is important for establishing a set of criteria that will be used to evaluate the effectiveness of control measures. The important surface variables which control the PM_{10} emission source strengths of unpaved roads and shoulders must be identified and quantified. The roles of vehicle types, sizes, weights, shapes, and speeds in affecting the magnitudes of emissions from road surfaces also require further investigation. Advances in this type of research are necessary if effective SIPs are to be formulated, leading to successful attainment of Federal and state PM_{10} standards.

The 1990 Clean Air Act and the California Clean Air Act require the San Joaquin Valley Air Pollution Control District (SJVUAPCD) to submit a revised State Implementation Plan (SIP) by February 1997. The SIP is to specify emission reduction measures and demonstrate that these measures will allow the Federal PM_{10} standards to be attained. Many measures are being considered, but their effectiveness, feasibility, and practicality have not been demonstrated in controlled scientific studies. If implementation of control measures is carried out without the benefit of a rigorous testing of their effectiveness, there is a high probability that great expenses will be incurred and that ineffective methods for reducing atmospheric PM_{10} loadings from road surfaces may be utilized.

1.2 Study Objectives

The objectives of this fugitive dust control effectiveness Demonstration Study are as follows:

- To review published studies of dust emission rates and dust suppression, and based on this experience, choose the field measurement and data analysis approaches most promising for the quantification of PM_{10} emission rates and suppressant effectiveness.
- To apply those approaches in order to determine which unpaved road stabilizing substances and practices have a high potential to reduce PM_{10} emissions from public unpaved roads and unpaved shoulders of paved public roads.
- To demonstrate the amount by which contributions to ambient PM_{10} concentrations are reduced by applying these methods and to establish the long term effectiveness of the suppressant applications.
- To determine the practicality and costs of applying these control measures to reduce fugitive dust emissions in the SJV.

1.3 Overview of Demonstration Study Plan

Section 2 of this Study Plan reviews the current state of knowledge regarding the characteristics of airborne dust particles and the important road or land surface variables which affect dust emissions. Meteorological and vehicular traffic influences are discussed, as is the estimation of emissions by the empirical AP-42 equation. Published dust emission and suppression studies are critically reviewed and summarized, and critical recommendations for this study are derived. An extensive, categorized list of commercially-available dust suppressant compounds is presented.

Section 3 builds on Section 2, identifying the surface properties which are expected to be modified by the addition of suppressant compounds. These properties are monitored during the Study using the methods discussed and recommended in this section. Methods for the measurement of suspended PM_{10} particles are reviewed and an approach is recommended. Data analysis and modeling methods are reviewed, and alternative approaches are chosen for inferring PM_{10} emission rates from the data obtained in the Demonstration Study.

Section 4 presents the criteria developed for public unpaved road and shoulder test sites, and the candidate sites which were examined in the process of making a final decision. The characteristics of the chosen test sites are summarized. Section 5 presents the detailed test procedure, including the suppressant choices and their application, the

PM_{10} sampler array, the measurement of critical surface properties, and the control and counting of vehicular traffic.

Section 6 summarizes the Desert Research Institute's Quality Assurance procedures applied to this Demonstration Study, including Standard Operating Procedures, performance audits, and the estimation of measurement precisions.

Section 7 covers the data management and validation approach, including data flow and checks, database structure and format, and validation tests applied to the data.

Section 8 presents the data analysis plan, including descriptive and statistical approaches. Empirical and Fugitive Dust Models are applied in order to estimate emissions rates and compare them to the direct measurements, and to assess the applicability and accuracy of empirical approaches.

Section 9 addresses the implications resulting from the findings of this Study, including practicality of different suppressant methods, their relative costs and benefits, criteria relevant to the prioritization of different roads and shoulders for treatment, and the design of follow-on pilot studies.

The Demonstration Study schedule is presented in Section 10.

2.0 CURRENT KNOWLEDGE OF ROAD DUST SUSPENSION AND CONTROL

The movement of soil, and especially its suspension from the surface of the earth into the atmosphere, has been studied in many branches of science. "Aeolian dust," named for Aeolus, the Greek god of the wind, and the study of dust transport and deposition processes is a major discipline in the fields of geology, geomorphology, and archaeology (Pye, 1987). Wind erosion is of great concern to agriculturists and soil scientists because the loss of fine particles results in a reduction in soil fertility (Zobeck and Fryrear, 1986a, 1986b). Meteorologists study interactions between the atmosphere and the earth's surface to gain understanding of the transfer processes for momentum which drives the transport system for sediment and scalar quantities such as heat and carbon dioxide (Raupach *et al.*, 1980, 1985). Air pollution scientists devise methods to estimate contributions from dust suspended by the wind and other mechanisms to particles which might cause adverse health effects.

The published literature on the mechanisms for dust suspension are widely dispersed and not entirely comparable in terms of the properties studied and the units of measure. Much of the work on dust suspension has been done by agriculturists to minimize soil erosion. Erosion estimates include all of the mechanisms which might affect the removal of topsoil from a given area, one of which is suspension into the atmosphere. Air pollution scientists are concerned with the portion of eroded soil which is removed by suspension into the atmosphere and transported reasonable distances (typically greater than 100 m, the nominal dimension of significant fugitive dust emissions sources) without deposition to the surface and which may eventually impact upon human health and the quality of life of persons living in the vicinity of a fugitive dust source. These diverse research efforts provide a wide range of both anecdotal and quantitative information relevant to this Demonstration Study.

The main goal of this section is to review current knowledge regarding dust generation and suppression, and to select those methodologies and approaches which seem most appropriate to unpaved roads and shoulders in the San Joaquin Valley. This Demonstration Study will be designed based upon state-of-the-art understanding in several areas, including the following:

1. Characteristics of dust as a constituent of PM_{10};
2. Processes and variables which affect the suspension of dust from unpaved roads and shoulders;
3. Comprehensive review of methods and findings of previous road/shoulder dust control studies; and
4. Comprehensive review of dust control substances and methods.

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This section concludes with recommendations regarding the most promising and appropriate dust control methods and substances for the San Joaquin Valley Road and Shoulder Dust Demonstration Study.

2.1 Characterization of Dust as a Constituent of PM_{10}

Table 2-1 summarizes source contributions to average PM_{10} for several areas in the U.S. where Chemical Mass Balance (CMB, Watson *et al.*, 1990; 1991) source apportionment studies have been conducted. The values in Table 2-1 are not entirely comparable in an absolute sense, since published source apportionment studies usually report averages for different sample selections (usually biased toward high PM_{10} levels) and different seasons. Geological material, principally oxides of silicon, aluminum, and iron, is typically the major contributor to PM_{10}, followed by particulates including motor vehicle exhaust, vegetative burning emissions, industrial emissions, and secondary aerosols. More detailed analyses of individual samples shows that geological source contributions may vary by time of year and time of day (e.g., Watson *et al.*, 1994; Chow *et al.*, 1994a).

Paved road dust is much like an ambient PM_{10} sample, with a complex combination of particulate matter from a wide variety of sources, especially other geological source types. Paved road dust is typically dominated by organic carbon (OC), aluminum (Al), silicon (Si), potassium (K), calcium (Ca), titanium (Ti), and iron (Fe) present in abundances which usually exceed 1%. However, the complexity of road dust is evident in the comparison of a paved road dust profile reported by Chow *et al.* (1991) for Phoenix, AZ, with profiles from other geological sources in the area. Chow *et al.* (1991) noted that the abundance of organic carbon in the profile was $11 \pm 9\%$, larger and more variable than its abundance in profiles from agricultural land, construction sites, and vacant lots. The presence of tire wear, detritus, and engine oils can account for this enrichment. This organic carbon content places an effective upper limit on the contribution from tire wear and other carbon sources to suspendable paved road dust. Approximately 25% of tire material consists of styrene-butadiene rubber (SBR) (Pierson and Brachaczek, 1974). Ondov (1974) measured elemental components of tire material and found minor concentrations for most species, with S (~2%), Cl (~1.5%), and Zn (~1%) being the most abundant components.

The abundances of Pb and Br in Phoenix paved road dust were more than double the concentrations in the other geological profiles, indicating the presence of tailpipe exhaust from vehicles burning leaded fuels. These will not be good indicators of exhaust contributions today because tetraethyl lead is no longer used as a fuel additive. Enrichments in species from clutch and brake wear were absent in the Phoenix paved road dust profiles. These are often composed of asbestos and/or semi-metal carbon composites. Ondov (1974) measured abundances of ~14% Mg, ~2% Ca, ~4% Fe,

Table 2-1
Receptor Model Source Contributions to PM_{10} (in percent)

Site	Sampling	Geological	Primary Construction	Primary Motor Vehicle Exhaust	Primary Vegetative Burning	Secondary Ammonium Sulfate	Secondary Ammonium Nitrate	Misc. Source 1	Misc. Source 2	Misc. Source 3	Misc. Source 4	Unexplained	Measured PM_{10} Concentration (μg/m³)
Central Phoenix, AZ (Chow et al., 1991)		51.6	0.0	39.1	3.6	0.3	4.4	0.0	0.0	0.0	0.0	1.1	64
Corona de Tucson, AZ (Chow et al., 1992a)		89.0	0.0	8.4	0.0	9.9	0.0	0.0	0.0	0.0	0.0	-7.3	19.1
Crayeroft, AZ (Chow et al., 1992a)		55.6	0.0	35.5	0.0	3.0	2.6	5.1[a]	0.0	0.0	0.0	3.4	23.4
Downtown Tucson, AZ (Chow et al., 1992a)		54.2	10.6	29.2	0.0	2.1	0.4	2.7[a]	0.0	0.0	0.0	3.5	48
Hayden 1, AZ (Garfield) (Ryan et al., 1988)		4.8	1.9[b]	0.0	0.0	3.8	0.0	70.5[c]	4.8[d]	1.0[e]	0.0	91.4	105
Hayden 2, AZ (Jail) (Ryan et al., 1988)		35.6	6.8[b]	0.0	0.0	6.8	0.0	47.5[c]	0.0	1.7[e]	0.0	57.6	59
Orange Grove, AZ (Chow et al., 1992a)		58.5	0.0	43.9	0.0	1.2	1.2	0.0	0.0	0.0	0.0	-4.7	34.2
Phoenix, AZ (Estrella Park) (Chow et al., 1991)		67.3	0.0	18.2	1.6	2.9	0.0	0.0	0.0	0.0	0.0	10.0	55
Phoenix, AZ (Gumeny Rg.) (Chow et al., 1991)		74.1	0.0	20.4	0.0	3.7	0.0	0.0	0.0	0.0	0.0	1.9	27
Phoenix, AX (Pinnacle Pk.) (Chow et al., 1991)		58.3	0.0	24.2	8.3	7.5	0.0	0.0	0.0	0.0	0.0	1.7	12
Rillito, AZ (Thantitos et al., 1992)		53.7	17.4[b]	1.5[f]	0.0	0.0	0.0	14.6[g]	0.0	0.0	0.0	46.3	79.5
Scottsdale, AZ (Chow et al., 1991)		45.5	0.0	34.5	13.5	1.1	6.5	0.0	0.0	0.0	0.0	-1.1	55
West Phoenix, AZ (Chow et al., 1991)		43.5	0.0	36.2	14.5	0.6	4.5	0.0	0.0	0.0	0.0	0.7	69
Anacapa Island, CA (Chow et al., 1994b)		8.5	0.0	18.8	0.0	13.1	3.8	36.9[h]	0.0	0.0	0.0	55.8	26
Anaheim, CA (Gray et al., 1988)		40.7	0.0	7.9[i]	0.0	13.4	18.8	0.8[j]	2.7[k]	15.7[k]	0.0	27.1	52.1
Anaheim, CA (Summer) (Watson et al., 1994a)		22.2	0.0	16.6	0.0	17.5	5.7	0.0[l]	12.7[m]	0.0	0.0	38.0	51.3
Anaheim, CA (Fall) (Watson et al., 1994a)		12.7	0.0	35.8	0.0	3.6	37.0	0.0[l]	3.0[n]	0.0	0.0	11.0	104
Azusa, CA (Summer) (Watson et al., 1994a)		37.9	0.0	17.3	0.0	12.4	6.6	0.0[l]	6.2[k]	0.0	0.0	25.8	92.1
Bakersfield, CA (Magliano, 1988)		40.5	4.4	8.1	14.2[j]	8.3	0.0	0.7[j]	0.0	0.0	0.0	38.6	67.6
Bakersfield, CA (Chow et al., 1992b)		53.9	2.0	9.7	8.2	6.9	16.0	1.5[o]	1.9[k]	0.8[k]	0.0	3.4	79.6
Burbank, CA (Gray et al., 1988)		37.6	0.0	10.8[i]	0.0	12.7	18.0	0.2[p]	1.6[k]	17.3[k]	0.0	31.6	56.6
Burbank, CA (Summer) (Watson et al., 1994a)		19.4	0.0	23.5	0.0	17.2	9.0	0.0[l]	7.9[k]	0.0	0.0	31.0	72.3
Burbank, CA (Fall) (Watson et al., 1994a)		11.6	0.0	41.2	0.0	3.3	26.5	0.0[l]	2.0[k]	0.0	0.0	17.4	94.8
Chula Vista 1, CA (Bayside) (Cooper et al., 1988)		23.3	0.0	2.8	0.0	26.0	0.0	1.4[j]	9.4[k]	6.9[k]	0.0	47.9	28.8
Chula Vista 2, CA (Del Ray) (Cooper et al., 1988)		26.4	1.0	4.8	0.0	28.6	0.0	1.9[p]	5.8[k]	0.0	0.0	39.2	31.1
Chula Vista 3, CA (Cooper et al., 1988)		32.8	1.0	4.7	0.0	27.7	0.0	2.0[p]	5.7[k]	0.0	0.0	33.8	29.6
Claremont, CA (Summer) (Watson et al., 1994a)		27.7	0.0	20.6	0.0	13.6	9.0	0.0[l]	6.7[k]	0.0	0.0	29.1	70
Crows Landing, CA (Chow et al., 1992b)		61.3	0.0	4.2	6.5	5.3	12.4	1.0[m]	2.9[n]	2.3[k]	0.0	10.3	52.5
Downtown Los Angeles, CA (Gray et al., 1988)		39.5	0.0	10.6[i]	0.0	12.6	18.6	0.0	2.2[k]	13.1[k]	0.0	29.2	60.2
Downtown Los Angeles, CA (Summer) (Watson et al., 1994a)		18.8	0.0	24.0	0.0	19.2	6.5	0.0[l]	9.6[k]	0.0	0.0	31.5	67.6
Downtown Los Angeles, CA (Fall) (Watson et al., 1994a)		9.5	0.0	41.7	0.0	4.0	27.9	0.0[l]	1.8[k]	0.0	0.0	16.9	98.6
Fellows, CA (Chow et al., 1992b)		53.1	2.6	3.8	6.2	9.3	13.7	12.8[m]	2.6[n]	2.6[k]	0.0	11.2	54.6
Fresno, CA (Magliano, 1988)		35.6	1.5	8.3	19.1[j]	3.7	0.0	0.2[p]	0.0	0.0	0.0	50.9	48.1
Fresno, CA (Chow et al., 1992b)		44.5	0.0	9.5	7.1	5.0	14.5	0.4[m]	1.4[n]	0.1[k]	0.0	19.3	71.5
Hawthorne, CA (Summer) (Watson et al., 1994a)		16.3	0.0	12.2	0.0	32.7	1.3	0.0[l]	15.3[n]	0.0	0.0	37.5	45.9
Hawthorne, CA (Fall) (Watson et al., 1994a)		10.5	0.0	41.2	0.0	6.0	24.0	0.0[l]	4.3[k]	0.0	0.0	18.3	85.1

Table 2-1 (continued)
Receptor Model Source Contributions to PM_{10} (in percent)

Site	Sampling Geological	Primary Construction	Primary Motor Vehicle Exhaust	Primary Vegetative Burning	Secondary Ammonium Sulfate	Secondary Ammonium Nitrate	Misc. Source 1	Misc. Source 2	Misc. Source 3	Misc. Source 4	Unexplained	Measured PM_{10} Concentration [$\mu g/m^3$]
Indio, CA (Kim et al., 1992)	56.9	5.2	7.6	12.2	6.2	7.1	0.3[j]	1.7[k]	0.0	0.0	4.8	58
Kern Wildlife Refuge, CA (Chow et al., 1992b)	31.6	4.2	4.6	8.4	6.9	3.1	1.0[m]	3.1[n]	1.5[k]	0.0	41.2	47.8
Lennox, CA (Gray et al., 1988)	34.1	0.2	9.8[f]	0.0	16.2	16.8	0.4[j]	6.6[k]	16.2[k]	0.0	32.6	46.9
Long Beach, CA (Gray et al., 1988)	39.9	0.0	9.8[f]	0.0	15.4	17.7	0.2[j]	3.9[k]	12.3[k]	0.0	27.0	51.9
Long Beach, CA (Summer) (Watson et al., 1994a)	24.1	0.0	13.7	0.0	23.6	1.7	0.2[j]	4.8[k]	0.0	0.0	36.9	46.1
Long Beach, CA (Fall) (Watson et al., 1994a)	11.8	0.0	44.5	0.0	4.0	24.1	0.0[j]	2.8[k]	0.0	0.0	15.6	96.1
Magnolia, CA (Chow et al., 1992c)	48.0	0.0	17.0	0.0	7.4	29.8	0.5[j]	1.8[k]	1.8[o]	0.0	-2.3	66
Palm Springs, CA (Kim et al., 1992)	46.7	4.0	6.6	14.5	10.5	12.0	0.3[j]	1.4[k]	0.0	0.0	5.7	35.1
Riverside, CA (Chow et al., 1992c)	50.9	0.0	10.9	0.0	7.5	33.4	0.5[j]	2.0[k]	1.7[o]	0.0	-2.8	64
Rubidoux, CA (Gray et al., 1988)	49.3	4.6[f]	6.4	0.0	7.3	24.4	0.3[j]	1.1[k]	6.8[k]	0.0	12.6	87.4
Rubidoux, CA (Summer) (Watson et al., 1994a)	30.4	3.9	15.1	0.0	8.3	23.9	0.0[j]	4.4[k]	0.0	0.0	18.5	114.8
Rubidoux, CA (Fall) (Watson et al., 1994a)	17.1	14.4	27.1	0.0	1.9	28.2	0.0[j]	1.0[k]	0.0	0.0	11.3	112
Rubidoux, CA (Chow et al., 1992c)	55.2	0.0	11.7	0.0	6.1	24.9	0.5[j]	1.7[k]	6.6[o]	0.0	2.1	87
San Jose, CA (4th St.) (Chow et al., 1994a)	19.2	0.0	13.5	45.8	3.4	19.4	1.3[h]	0.0	0.0[k]	0.0	-1.2	68.4
San Jose, CA (San Carlos St.) (Chow et al., 1994a)	18.2	0.0	13.7	48.2	3.2	19.7	1.1[h]	0.0	0.0	0.0	-3.1	64.9
San Nicolas Island, CA (Summer) (Watson et al., 1994a)	9.2	0.0	5.2	0.0	21.3	2.9	0.0j	24.7[h]	0.0	0.0	61.5	17.4
Santa Barbara, CA (Chow et al., 1994b)	27.9	0.0	43.2	0.0	9.4	2.9	18.8[h]	0.0	0.0	0.0	16.5	34
Santa Barbara, CA (GTC) (Chow et al., 1994b)	15.6	0.0	24.9	0.0	13.7	2.4	30.7[h]	0.0	0.0	0.0	43.4	20.5
Santa Maria, CA (Chow et al., 1994b)	27.4	0.0	28.1	0.0	11.5	5.2	21.1[h]	0.0	0.0	0.0	27.8	27
Santa Ynez, CA (Chow et al., 1994b)	24.2	0.0	35.8	0.0	11.6	3.2	21.1[h]	0.0	0.0	0.0	25.3	19
Stockton, CA (Chow et al., 1992b)	55.1	0.8	8.3	7.7	5.0	11.2	1.1[m]	2.9[n]	0.0[k]	0.0	11.9	62.4
Upland, CA (Gray et al., 1988)	43.8	0.7[f]	7.1	0.0	11.0	25.0	1.0[j]	1.0[k]	13.4[k]	0.0	13.1	58
Vandenberg AFB, CA (Watt Road) (Chow et al., 1994b)	21.8	0.0	15.5	0.0	9.2	4.9	45.1[h]	0.0	0.0	0.0	48.5	20.6
Telluride 1, CO (Central) (Dresser and Baird, 1988)	15.4	0.0	0.0	47.5	0.0	0.0	29.5[p]	0.0	0.0	0.0	37.2	208
Telluride 2, CO (Society Turn) (Dresser and Baird, 1988)	44.8	0.0	0.0	27.0	0.0	0.0	27.0[p]	0.0	0.0	0.0	28.1	27
Pocatello, ID (Houck et al., 1992)	8.3	7.5[q]	0.1	0.0	0.0	0.0	0.0	0.0	84.1[r]	0.0	91.6	100
S. Chicago, IL (Hopke et al., 1988)	34.0	3.0	3.5	0.0	19.2[s]	0.0	18.9[t]	2.7[u]	0.0	0.0	59.6	80.1
S.E. Chicago, IL (Vermette et al., 1992)	35.9[v]	0.0	2.2[f]	0.0	18.8	0.0	2.0[t]	0.7[h]	2.7[w]	18.8[x]	81.2	41
Reno, NV (Non-sweeping) (Chow et al., 1990)	47.5	0.0	42.6	0.5	2.9	1.0	0.0	0.0	0.0	0.0	5.4	20.4
Reno, NV (Sweeping) (Chow et al., 1990)	47.4	0.0	44.2	4.8	3.2	0.8	0.0	0.0	0.0	0.0	-0.4	24.9
Reno, NV (Chow et al., 1988)	49.7	0.0	33.3	6.3	4.3	2.0	0.0	0.0	0.0	0.0	4.3	30
Sparks, NV (Chow et al., 1988)	36.8	0.0	28.3	32.7	6.6	2.2	0.0	0.0	0.5[k]	0.0	-6.6	41
Verdi, NV (Chow et al., 1988)	52.0	0.0	26.7	7.3	6.0	0.7	0.0	0.0	0.0	0.0	7.3	15

Table 2-1 (continued)
Receptor Model Source Contributions to PM_{10} (in percent)

Site	Sampling Geological	Primary Construction	Primary Motor Vehicle Exhaust	Primary Vegetative Burning	Secondary Ammonium Sulfate	Secondary Ammonium Nitrate	Misc. Source 1	Misc. Source 2	Misc. Source 3	Misc. Source 4	Unexplained	Measured PM_{10} Concentration [$\mu g/m^3$]
Follansbee, OH (Skidmore et al., 1992)	15.2	0.0	53.0	0.0	24.2	--	14.1[f]	0.0	0.0	0.0	7.6	66
Mingo, OH (Skidmore et al., 1992)	20.0	0.0	23.3	6.8	25.0	--	5.7[g]	18.3[k]	0.0	0.0	24.8	60
Sewage Plant, OH (Skidmore et al., 1992)	35.5	0.0	19.4	0.0	21.0	--	10.6[t]	14.0[k]	0.0	0.0	24.2	62
Steubenville, OH (Skidmore et al., 1992)	18.0	0.0	30.4	1.7	30.4	--	8.3[t]	10.9[k]	0.0	0.0	19.3	46
WTOV Tower, OH (Skidmore et al., 1992)	15.1	0.0	32.7	0.4	30.6	--	6.9[t]	16.1[k]	0.0	0.0	21.2	49

a Smelter background aerosol.
b Cement plant sources, including kiln stacks, gypsum pile, and kiln area.
c Copper ore.
d Copper tailings.
e Copper smelter building.
f Heavy-duty diesel exhaust emission.
g Background aerosol.
h Marine aerosol, road salt, and sea salt plus sodium nitrate.
i Motor vehicle exhaust from diesel and leaded gasoline.
j Residual oil combustion.
k Secondary organic carbon.
l Biomass burning.
m Primary crude oil.
n NaCl + NaNO3.
o Lime.
p Road sanding material.
q Asphalt industry.
r Phosphorus/phosphate industry.
s Regional sulfate.
t Steel mills.
u Refuse incinerator.
v Local road dust, coal yard road dust, steel haul road dust.
w Incineration.
x Unexplained mass.

and ~1% Ba in asbestos brake shoes, while Anderson *et al.* (1973) reported Si abundances of ~10%. Cooper *et al.* (1988) examined the elemental composition of semi-metal brake shoes and found abundances of ~45% Fe, ~2% Cu, ~0.5% Sn, ~3% Ba, and ~0.5% Mo. None of these species was found in the Phoenix paved road dust profiles at levels that were significantly in excess of their abundances in other geological sample-types.

2.2 Critical Review of Processes and Variables that Affect Dust Emissions

The suspension of dust by wind and anthropogenic activities depends on a number of physical properties of both the atmosphere and the erodible surface. The key properties affecting the magnitude of dust emissions are: 1) surface loadings of suspendable material; 2) size distributions of the surface particulate matter; 3) moisture; 4) surface roughness; 5) wind speed and direction; and 6) vehicular dust suspension mechanisms. Many of these factors provide explicit or implicit inputs to the U.S. EPA's AP-42 empirical dust emission model. The objective of this subsection is to report the current status of knowledge of each of these properties with respect to their influence on the dust emission process, and to review strengths and shortcomings of the AP-42 model.

2.2.1 Surface Loading

The amount of suspendable dust on a surface influences how much might be suspended. Most surfaces are limited reservoirs, and the suspendable dust is depleted after a short time period. Theoretical considerations of the time dependence of resuspension by wind suggest that it may be represented as a negative exponential function (Anspaugh *et al.*; 1975; Linsley, 1978), although several authors have proposed an inverse relationship between suspension and time (Reeks *et al.*, 1985; Garland, 1979). Nicholson (1993), in an empirical wind tunnel study of resuspension processes from concrete surfaces, found that the decay rate of particle emissions from surfaces was not well-represented by a negative exponential relationship, but appeared to follow an inverse time relationship. However, Nicholson (1993) also noted that this relationship could be complicated in the natural environment due to the large range of surface and environmental conditions.

On exposed land, deflation of fine particles often results in the exposure of larger nonerodible sediments which act to shield the suspendable particles from the wind. The larger nonerodible elements also act to absorb momentum and decrease the erosive power of the wind that reaches the potentially erodible surface (Marshall, 1971; Raupach, 1992). When surfaces are continually disturbed by very intense winds or by vehicular movement or other human activities, they may become unlimited reservoirs which emit dust whenever winds exceed threshold suspension velocities. There are few (<500 for the entire U.S.) reported data on the surface loadings of silt (<75 μm) and absolutely no

data on surface loadings of PM_{10} for any surface included in fugitive dust emissions inventories.

2.2.2 Particle Size Distribution

The current air quality standard applies to particles which are less than 10 μm in aerodynamic diameter (PM_{10}). (The "aerodynamic diameter" is defined as the diameter of a sphere of unit density [1.0 g/cm^3]; therefore, for soil particles, the aerodynamic diameter corresponds to actual, geometric diameters less than 7 μm because the density of soil particles is about 2.65 g/cm^3, and the aerodynamic diameter varies inversely with the square root of the density [Hinds, 1986]). The concern with PM_{10} is solely health-related, because it represents the upper limit of aerodynamic size class which may enter the respiratory system. The dust particle size distribution is an important variable for determining its emission and transport.

Figure 2-1 shows residence times based on gravitational settling velocities for various aerodynamic diameters homogeneously distributed through a 100 m mixed layer. The "stilled chamber" model assumes that there is no vertical mixing for remaining particles following suspension, while the "stirred chamber" model assumes there is instantaneous mixing throughout the layer (Davies, 1966). The real-life situation probably lies somewhere between these extremes. More than half of the particles with a diameter less than 2.5 μm may remain suspended for more than a week, while those between 2.5 and 10 μm may remain suspended from ~0.25 to 4 days. Most particles larger than 20 μm settle out in less than two hours. The larger particles are also much heavier than the smaller particles and have a lower probability of being mixed to 100 m heights in the first place. Every particle attains an equilibrium between these forces at its terminal settling velocity. The settling velocity increases as the square of the particle diameter or when the particle density increases. For very small particles (<10 μm diameter), vertical air movements caused by turbulence can counteract the gravitational settling velocity and such particles can remain suspended for long times. Particle deposition for particles larger than ~20 μm diameter is dominated by the force of gravity. Transport distance depends on the initial elevation of a particle above ground level, the horizontal wind velocity component in the direction of interest at the particle elevation, and the gravitational settling velocity.

Very little is known about the PM_{10} size fraction in surface dust deposits, despite its adverse health potential, long residence time, and high potential for vertical mixing. The most comprehensive information on particle sizes in geological material is contained in soil surveys compiled by the Federal and State Soil Conservation Services (SCS). The particle size distribution information in the SCS data sheets represents the distribution of a wholly disaggregated sample and describes the mineral grain size composition. These surveys provide boundaries for different soil types on 7.5-minute maps corresponding to U.S. Geological Survey (USGS) maps. The codes are associated with data in a printed summary which accompanies the maps for each survey area. Table 2-2 shows textural characteristics of soils in the northern area of Merced County in California's San Joaquin

Attachment to Submission BO118 (Raymond Carlson, J.G. Boswell Company (Atty. for), Griswold, LaSalle, Cobb, Dowd & Gin LLP (GLCDG), October 13, 2011) - Carlson_Letter_Attachments.pdf - Continued

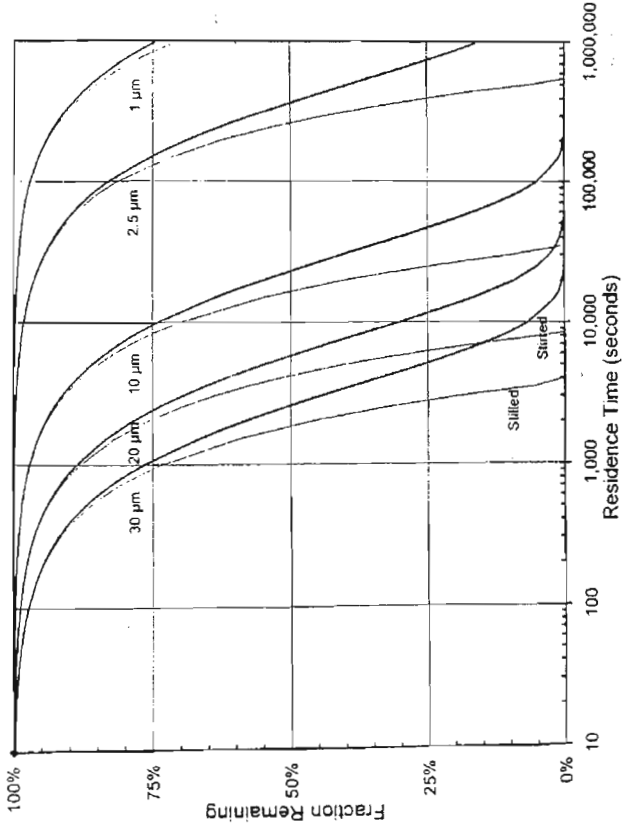

Figure 2-1 Aging times for homogeneously distributed particles of different aerodynamic diameters in a 100 m deep mixed layer. Gravitational settling is assumed for both still and stirred chamber models (Hinds, 1982).

Table 2-2
Soil Types and Their Textural Characteristics
in the Merced County Study Area

Soil Name	Layer Depth (m)	% Sand	% Silt	% Clay
Montpellier coarse sandy loam	0-0.20	66	24	10
Redding gravelly loam	0-0.08	47	36	17
	0.08-0.2	46	35	19
Whitney fine sandy loam	0-0.13	23	51	26
	0.13-0.35	21	49	30
Snelling sandy loam	0-0.10	73	22	5
	0.10-0.40	75	16	9

Valley, from the U.S. Department of Agriculture (USDA) soil survey (USDA, 1962). The soil types represented in Table 2-2 are within the study area of this Demonstration Study.

Particle sizes are indicated by qualitative descriptions in terms of the amount of sand (50 to 2,000 μm geometric diameter), silt (2 to 50 μm geometric diameter), and clay (<2 μm geometric diameter) (USDA, 1960). Note that the soil survey definition for silt differs from that used in fugitive dust emission factors (<75 μm geometric diameter) and even from the sieve fractions reported in the soil survey, which are <4,760, <2,000, <420, and <74 μm in geometric diameter. The soil survey's <74 μm sieve fraction will be considered equivalent to a <75 μm fraction in this discussion. These particle size fractions in the soil survey are estimated by the individuals conducting the survey based on the visual similarity of the observed soils to a subset of soil samples which are submitted to particle size analyses in a laboratory.

The particle sizing procedure (American Society for Testing and Materials, 1990a; 1990b) which is most commonly followed for soil surveys creates a soil/water suspension in which soil aggregates are broken into their component parts prior to sieving. The material designated as sand is washed through a series of sieves to determine the particle size distribution. The distribution of the finer particles (silts and clays) is determined by methodologies based on the calculated fall velocities of the different sized particles through a column of water. While the particle size distribution of the disaggregated sediment is useful for agricultural, construction, and other land uses, it is not especially useful for estimating air pollution emissions, because it does not estimate the size of the dust aggregates which are susceptible to entrainment and suspension by surface winds.

Gillette *et al.* (1980) applied two methods to determine the particle and aggregate sizes in soil which might be entrained by winds and cause pollution problems. The first method (i.e., gentle sieve) consists of drying the soil sample and sieving it gently on a 1 mm sieve with about twenty circular gyrations parallel to the plane of the sieve. A similar methodology was described by Cowherd *et al.* (1990) for estimating the modal aggregate size of sediment samples removed from unpaved roads. Cowherd *et al.* (1990) adapted their methodology from a rotary sieving procedure described by Chepil (1952) which is considered to be the standard technique for determining the aggregate size distribution of soils. Gillette *et al.* (1980) related the modal aggregate size of loose surface sediment to the threshold friction velocity (u_*, m/s) which is a measure of the force required to entrain the surface sediment by the wind and is related to the wind speed. The second method (i.e., hard sieve) consists of up to one-half hour of vigorous shaking (usually using a shaking machine). The gentle sieve method is assumed, without quantitative validation, to be a more suitable approach for determining the potential suspension properties of a soil because it attempts to sample the sediment with its *in situ* characteristics intact. The hard sieve method is assumed to provide an indication of the potential sediment that is available for resuspension from the soil when disaggregating

activities (e.g., vehicle traffic) occur. Gillette *et al.*'s (1980) threshold suspension velocity measurements apply to soil characteristics obtained by the gentle sieve method.

Table 2-3 shows soil properties determined by the gentle and hard sieve methods for five samples taken from a stony, sandy loam soil (Badland Verdico, USDA, 1980) in Reno, Nevada. The samples of Badland Verdico soils were retained in airtight ziplock bags prior to testing to minimize contamination and evaporation of moisture. Table 2-3 includes qualitative observations regarding visible resuspension of the surfaces by wind (simulated by blowing air over the land surface). The moist soil and the desert crust did not visibly suspend, while the remaining disturbed and dry soils suspended easily with moderate blowing. Table 2-3 shows a high reproducibility of the silt measurements among the construction soil samples. The silt fraction (<75 μm geometric diameter) increased by a factor of ten when aggregates were broken up by vigorous sieving. Even with the hard sieve, the suspendable fraction was less than one-tenth the values from the soil survey particle size distribution data. Table 2-3 also shows that the majority of the silt fraction consists of particles larger than 38 μm geometric diameter, as a negligible fraction of material passed through the final sieve even with vigorous shaking. Cowherd *et al.* (1988) recommend that dry sieving to determine silt content using a shaker must be done in discrete time intervals and the change in mass of the bottom pan be closely monitored. When the change in the mass of sediment collected in the pan is less than 3% between two successive shaking periods, Cowherd *et al.* (1990) consider this to be an indication that all the natural silt has passed through the 74 μm sieve and that any additional mass results from the grinding of larger aggregates by the shaking method.

Newer sieves allow bulk sizing to a fraction below 25 μm geometric diameter (corresponding to approximately 40 μm aerodynamic diameter), but other methods must be applied to obtain smaller size fractions. Figure 2-1 shows examples of size distributions in dust from paved and unpaved roads, agricultural soil, sand and gravel, and alkaline lake bed sediments which were measured in a laboratory resuspension chamber (Chow *et al.*, 1994). The <38 μm sieve fraction was suspended in this chamber and drawn through $PM_{1.0}$, $PM_{2.5}$, PM_{10}, and TSP inlets. TSP corresponds approximately to a PM_{30} size fraction. Fractions in Figure 2-1 are normalized to the TSP mass concentration in the resuspended dust. The $PM_{1.0}$ abundance (6.9%) in the alkaline lake bed dust is twice its abundance in paved and unpaved road dust. Approximately 10% of TSP is in the $PM_{2.5}$ fraction and approximately 50% of TSP is in the PM_{10} fraction. The PM_{10}/TSP distribution is consistent with previous comparisons between PM_{10} and TSP samples in ambient air (Watson *et al.*, 1983; Watson and Chow, 1993). Sand/gravel dust is the exception, where 65% of the mass consists of particles larger than the PM_{10} fraction. The $PM_{2.5}$ fraction of TSP in alkaline lake beds and sand/gravel is approximately 30% to 40% higher than the other soil types. These finer gradations in particle size are available only for a limited number of soil types.

The size distribution of dust particles affects the suspension process. A flat bed of particles with diameters less than 20 μm is very difficult to suspend by wind; as Bagnold

Table 2-3
Sampled Soil Characteristics in Reno, NV

Soil Type	Characteristics	Moisture (%)	Gentle Sieve % <75 µm (% <38 µm)	Hard Sieve % <75 µm (% <38 µm)
Residential Construction Site	Dry vehicle track in graded area between housing foundations. Dust is visually suspended by moderate blowing at the surface.	3.56	0.28 (0.0)	3.46 (0.43)
Residential Construction Site	Wet vehicle track in graded area between housing foundations. Dust was not suspended with vigorous blowing.	17.97	0.19 (0.0)	2.91 (0.81)
Piles of Fill Dirt	Construction pile. Dust is visibly suspended by moderate blowing.	6.45	0.27 (0.02)	2.37 (0.46)
Unbroken Desert Pavement with Sagebrush Cover	Desert crust. Undisturbed area typical of what was present prior to construction. Only top 1 cm sampled. Dust is not suspended by vigorous blowing.	3.23	0.044 (0.0)	5.38 (0.46)
Broken Desert Pavement	Soil underneath desert crust. Dust is visibly suspended by moderate blowing.	10.1	0.07 (0.0)	4.27 (0.29)

(1937) showed, fine Portland cement could not be entrained by wind friction velocities in excess of 1.00 m/s. In this situation, there is no large cross section for wind to act on. In addition, adhesive forces such as van der Walls, electrostatic, and the surface tension of adsorbed liquid films (Hinds, 1986) increase the force required to entrain the particles. These adhesive forces increase with relative humidity and surface roughness, but decrease with increasing particle size (Corn and Stein, 1965).

Suspension of fine particles is also mitigated by the presence of larger nonerodible particles if they are present in sufficient quantities. Particles that exceed 840 µm in size are considered too large to be entrained by normal wind velocities (Chepil, 1942) and can act to shelter smaller particles in their lee. Gillette and Stockton (1989) sprinkled glass spheres with diameters ranging from 2,400 to 11,200 µm onto a bed of glass spheres with sizes from 107 to 575 µm and found major reductions in the horizontal flux of the smaller particles. However, Logie (1982) found that erosion of a sand surface was enhanced when low concentrations of larger non-erodible roughness elements were present on the surface. She suggested that the increased erosion was due to acceleration of the wind flow around the isolated elements which scoured the loose sand. Bagnold (1941) estimated that 800 µm particles are the most susceptible to suspension by wind, even though their large masses cause them to settle to the surface very rapidly.

Past studies (e.g., Rosbury and Zimmer, 1983) indicate that unpaved roads with certain types of road aggregates are more efficient emitters of dust than roads with higher silt contents. This suggests that measurement of the percent of aggregates and primary mineral grains in the size range of sand (50 µm - 2000 µm) and gravel (>2,000 µm - 8 cm) (U.S. Dept. of Agriculture, 1960) are important and directly related to the emissions of fine particles resuspended by the tires of moving vehicles. The percent of large aggregates on the road surface has not been previously reported in publications assessing dust emissions from unpaved roads. According to Rosbury and Zimmer (1983) in their study of haul roads, the correlation between dust emissions and silt content was not as simple as was reported by Cowherd *et al.* (1988). Rosbury and Zimmer (1983) observed that there were increased emissions of dust from surfaces with less silt content, but higher gravel content. This observation was also reported by Flocchini *et al.* (1994). The gravel appears to provide, in conjunction with its activation into movement by tires, a high energy source that actively abrades the surface creating a source of fine particles. In addition, the bouncing gravel particles may entrain dust into their aerodynamic wakes, drawing it away from the surface and into the air stream. Such a mechanism has been suggested as a means of entraining dust particles and ejecting them into the air stream in wind erosion processes.

2.2.3 Moisture

Water adheres to individual soil particles, thus increasing their mass, adding surface tension forces, and mitigating suspension and transport. Cohesion of the wetted particles often persists after the water has evaporated due to the formation of aggregates

and surface crusts. The threshold shear velocity of soils is significantly increased, thereby reducing the erosion potential by wind, when soil surface moisture is increased by less than 1% from its dry state (Chepil, 1956; Belly 1964; Bisal and Hsieh, 1966; Svasek and Terwindt, 1974). For example, the wet vehicle track sample reported in Table 2-3 contained ~18% moisture and did not show visible dust suspension in the presence of wind. The dust-suppressing effectiveness of moisture on unpaved roads is well-documented (Cowherd *et al.* 1990). Nicholson *et al.* (1989) found that the moisture content of the road surface and the presence of strong winds influenced the amount of dust suspended by vehicles. Higher moisture content reduced dust suspension while higher winds tended to enhance dust emissions caused by passing vehicles. Rosbury and Zimmer (1983) found that moisture content affects the ejection of particulates by vehicles, as well as the strength of the road bed and hence its ability to deform under vehicle loading. The addition of water as a suppressant, which produced surface moisture contents greater than 2%, achieved greater than 86% reduction in emission rates of PM_{10} compared to the control surface which had an average moisture content of approximately 0.56% (Flocchini *et al.*, 1994). The road surface-moisture content is also important in enhancing the strength characteristics of surface crusts and the stability of aggregates (Bradford and Grossman, 1982; Lehrsch and Jolley, 1992).

Kinsey and Cowherd (1992) show how watering might reduce emissions at a construction site. Significant dust control benefits are derived initially by doubling the area which is watered; however, benefits are reduced as more water is applied to the site. Ultimately, control efficiency is limited because grading operations are continually exposing dry earth and burying the moistened topsoil. Figure 2-2 shows the effects of moisture content on downwind TSP concentrations measured near an active construction site, including heavy equipment moving at a rate of one vehicle pass per minute. As illustrated in Figure 2-2, nearly a factor of five change in downwind (50 m from emissions point) concentrations exists for the range of silt contents and moisture contents shown.

Moisture also causes dust to adhere to vehicle surfaces so that it can be carried out of unpaved roads, parking lots, and staging areas. Carryout also occurs when trucks exit heavily watered construction sites. This dust is deposited on paved (or unpaved) roadway surfaces where it dries and becomes available for suspension far from its point of origin. Fugitive dust emissions from paved roads are often higher after rainstorms in areas where unpaved accesses are abundant, even though the rain may have flushed existing dust from many of the paved streets.

While the moisture capacities and retentions of different geological materials are well documented in the soil surveys, the actual moisture content at a given time or place is not recorded. Thornthwaite (1931) proposed the ratio of precipitation to evaporation as an indicator of the availability of moisture for soils. Thornthwaite's major concern was the agricultural potential of land in different areas. The precipitation-evaporation effectiveness index (P-E index) is ten times the sum of the monthly precipitation to

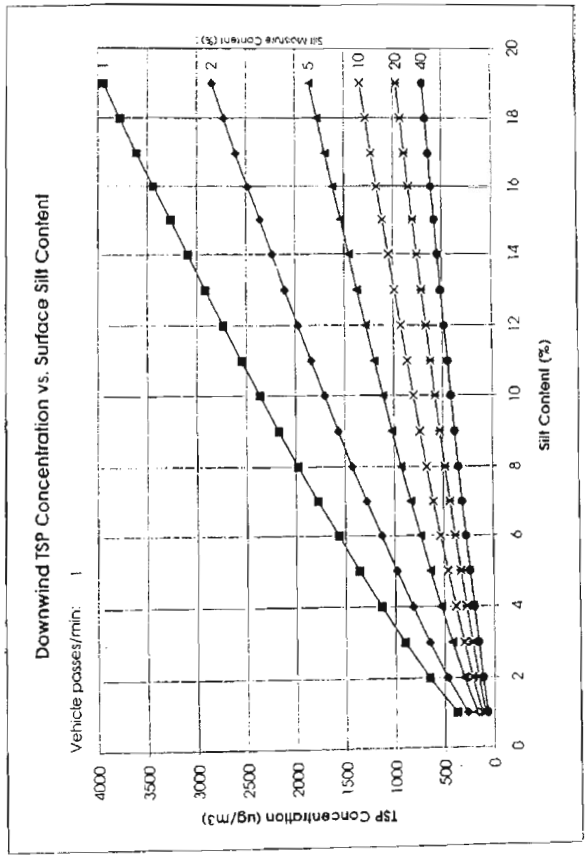

Figure 2-2 TSP emissions versus silt content for different moisture levels (Kinsey and Englehart, 1984). Applies to concentrations 50 m downwind of the emission point for TSP.

evaporation ratios. Using precipitation, evaporation, and temperature data taken prior to 1921 at 21 U.S. monitoring sites, Thornthwaite (1931) established the empirical relationship:

$$P - E \text{ index} = 115 \sum_{i=1}^{12} \left[\frac{P_i}{(T_i - 10)} \right]^{1.11} \quad (2\text{-}1)$$

where:

I = 1 to 12 for each month of a year
P_i = the inches of precipitation recorded during month
T_i = the average monthly temperature in degrees Fahrenheit

Thornthwaite (1931) used this relationship to classify all North America as wet (P-E index > 128), humid (64 < P-E index < 128), sub-humid (32 < P-E index < 64), semi-arid (16 < P-E index < 32), or arid (P-E index < 16). Much of the western U.S. is in the arid and semi-arid categories. The P-E index has been used to estimate the moisture content of different soils, as an input to calculate emission factors for different surface types.

Moisture, measured as the average number of days on which precipitation exceeded 0.254 mm during a year, will also effect the availability of dust for transport. These data are recorded in National Weather Service Local Climatological Summaries. The Climatic Atlas of the United States shows approximately 60 days of measurable (>0.254 mm) precipitation in the vicinity of Reno, NV, approximately 30 days of measurable precipitation in the vicinity of Las Vegas, NV, less than 20 days of measurable precipitation in California's Imperial Valley, and 40 to 60 days of measurable precipitation in most of the San Francisco Bay area, the San Joaquin Valley, and Southern California (U.S. Department of Commerce, 1968). The moisture content of soils will vary throughout the year depending on the frequency and intensity of precipitation events, irrigation, and relative humidity and temperature of the surrounding air. Large amounts of rain falling during one month of a year will not be as effective in stabilizing dust as the same amount of rain interspersed at intervals throughout the year.

The measurement of soil moisture content with gravimetric techniques is simple and well-verified. If performed correctly with an adequate number of samples, this technique is precise, accurate, and is accepted as a calibration standard (Weems, 1991; Ley, 1994). *In situ* measurement techniques have been developed; in most cases, these instruments depend upon probes inserted into the soil. Selker *et al.* (1993), describe several non-invasive methodologies for measuring soil moisture.

2.2.4 Surface Roughness

The roughness of the surface over which the wind blows affects the magnitude of the drag force exerted by the wind on the surface. The aerodynamic roughness length (z_0) is the apparent distance above the surface at which the average wind velocity approaches zero and is considered to be a measure of the drag force on the surface (Raupach *et al.*, 1991). According to Wieringa (1993), z_0 is a height independent description of surface roughness influence on flow dynamics near the surface. In reality the wind velocity does not become zero at this predicted height. At this height above the surface the wind velocity no longer follows a logarithmic velocity profile as the surface is approached. The aerodynamic roughness length is related to the actual surface roughness and, according to Greeley and Iversen (1985), can be approximated for surfaces with a uniform distribution of particles from the relationship:

$$z_0 = D/30 \quad (2\text{-}2)$$

where D is the average particle diameter. For surfaces with a more widely dispersed cover of uniform grains that are spaced a center to center distance of approximately twice the diameter, z_0 values can be higher than are predicted using Equation 2-2. In this situation, Greeley and Iversen (1985) suggest the relationship is better approximated by the relationship:

$$z_0 = D/8 \quad (2\text{-}3)$$

However, the relationship between the surface roughness and the magnitude of the aerodynamic roughness length is not well understood for complex natural surfaces (Gillies, 1994).

2.2.5 Wind Speed

Wind often resuspends dust from disturbed surfaces. Chepil and Woodruff (1963) and Gillette and Hanson (1989) show that the amount of soil which can be suspended by wind depends on the particle size distribution, wind velocity at the soil surface, the roughness of the surface, the relative fractions of erodible (<1,000 µm diameter) and non-erodible (>1,000 µm diameter) material (Gillette *et al.*, 1980), and the cohesion of the soil particles with one another. Values for each of these variables affect other variables. For example, a higher moisture content increases cohesion among particles and shifts the size distribution to larger particles. Larger agglomerations of small particles increase surface roughness which decreases wind speeds at the surface and surface shear stress is reduced as momentum is partitioned to the larger elements (Gillette and Stockton, 1989).

The effects of all of these variables are combined in a threshold friction velocity, which is experimentally determined by placing a wind tunnel over an example

of the affected soil and measuring the friction velocity at which visible soil movement is first observed (Nickling and Gillies, 1989). Both friction velocity (u_*, m/s) and surface roughness length (z_0, m) are determined from analysis of measured wind velocity profiles. This usually involves least squares regression analysis that determines the fit of the data with the theoretical Prandtl-von Karman model for velocity profiles in a turbulent boundary layer (Scott and Carter, 1986; McKenna-Neuman and Nickling, 1994). When the actual friction velocity is less than the threshold friction velocity for soil erosion, there is no movement of the saltation-susceptible particles. Upon the initiation of movement, it has been shown by Gillette (1977) and Nickling and Gillies (1989) that there is some dependence between the horizontal flux of the saltating grains and the vertical flux of fine particles. However, the strength of the relationship is controlled to some degree by the textural characteristics of the eroding soil. Gillette (1977) and Nickling and Gillies (1989) found that finer-textured soils produce particulates at a much higher rate than coarser-textured soils. Most ambient wind speed measurements are made at elevations between 5 and 10 m above ground level, and these must be translated to surface friction velocities to determine if erosion may be active. Figure 2-3 shows the relationship between TSP emissions and wind velocity for surfaces with different threshold friction velocities. The emissions vary with wind measured at 7 m above the ground level for threshold friction velocities ranging from 0.1 to 2.0 m/s with a surface roughness of 0.05 m. Resuspension of fine particulates has been observed to occur at all wind speeds and resuspension effects have been observed in the absence of saltating particles (Garland, 1983).

Gillette *et al.* (1980) show threshold friction velocities that vary from 0.19 to 1.82 m/s for disturbed desert soils. Gillette and Passi (1988) report that dust emissions should be proportional to the wind friction velocity raised to the fourth power. Nickling and Gillies (1993) found that this relationship applied to dust emissions measured on various surfaces in the Inland Delta region of Mali, West Africa. However, they also found that the constant of proportionality in the calculated emission rate function changed for different sampling locations within the Inland Delta. They suggested that this reflected surficial controls on the release of sediments to the air stream.

2.2.6 Dust Suspension by Vehicles

Dust on paved roads, unpaved roads, parking lots, and construction sites is suspended by natural winds and vehicular movement. Vehicular traffic in these areas adds to suspension because tire contact creates a shearing force with the road that lifts particles into the air (Nicholson *et al.*, 1989). Moving vehicles also create turbulent wakes which act much like natural winds to raise particles.

Dust on paved roads must be continually replenished; reducing the deposition of fresh dust onto these surfaces is a viable method for reducing their PM_{10} emissions. Dust loadings on a paved road surface build up by being tracked out from unpaved areas such

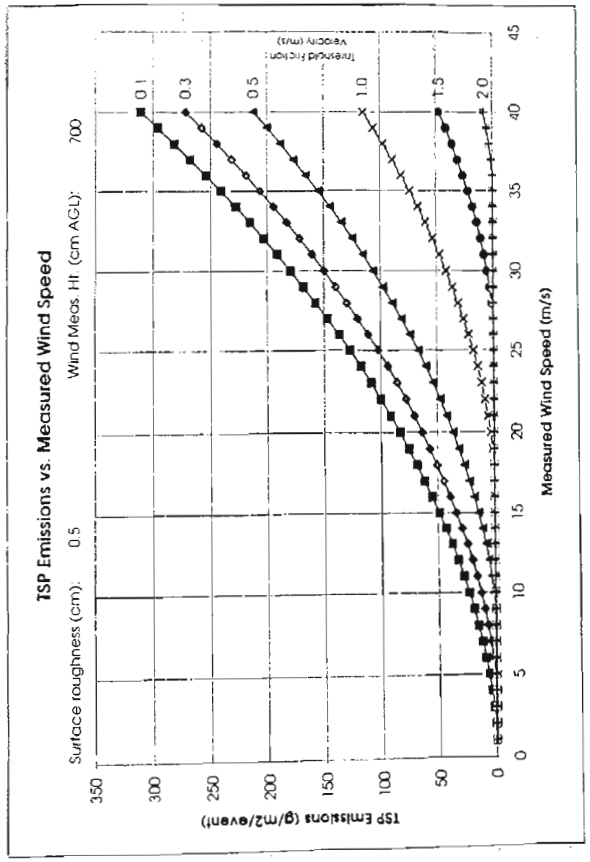

Figure 2-3 TSP emissions at different wind threshold velocities (U.S. EPA, 1985).

as construction sites, unpaved roads, parking lots, and shoulders; by spills from trucks carrying dirt and other particulate materials; by transport of dirt collected on vehicle undercarriages; by wear of vehicle components such as tires, brakes, clutches, and exhaust system components; by wear of the pavement surface; by deposition of suspended particles from many emissions sources; and by water and wind erosion from adjacent areas. The relative contribution from each of these sources is unknown. Axetell and Zell (1977) estimated typical deposition rates of 67.8 kg/km of curb for a 24-hour period. for particles of all sizes from the following sources: 1) 42% from mud and dirt carryout; 2) 17% from litter; 3) 8% from biological debris; 4) 8% from ice control compounds (in areas with cold winters); 5) 8% from erosion of shoulders and adjacent areas; 6) 7% from motor vehicles; 7) 4% from atmospheric dustfall; 8) 4% from pavement wear; and 9) less than 1% from spills. These proportions are highly uncertain because they apply to the TSP size fraction (rather than to the PM_{10} size fraction) and because these investigators did not consider all of the sources cited above. Axetell and Zell (1977) cite these fractions without describing the methodology used to estimate them; their paper constitutes the only publication that provides quantitative apportionments of paved road dust loadings to their sources.

Unpaved roads and other unpaved areas with vehicular activity are unlimited reservoirs of dust loading when vehicles are moving. These surfaces are always being disturbed, and wind erosion seldom has an opportunity to deflate the fine surface sediment and increase the surface roughness sufficiently to attenuate particle suspension. The grinding of particles by tires against the road surface shifts the size distribution toward smaller particles, especially those in the PM_{10} fraction. Pinnick *et al.* (1985) found the distribution of particle sizes within a vehicle-created dust plume was bimodal, with a coarse mode of approximately 50 μm and a fine mode of 2.5 μm. Patterson and Gillette (1977) reported a similar distribution for naturally generated dust plumes; however, there were proportionately fewer large particles in the natural plume dust in comparison to the vehicular case. The bimodal distribution was attributed to grinding processes caused by tires for the vehicle dust (Pinnick *et al.*, 1985) and to a sandblasting process for wind-generated dust (Patterson and Gillette, 1977). According to Nicholson *et al.* (1989), the size of the particles and the amount of dust resuspended by vehicles are dependent on the velocity of the vehicle. Nicholson *et al.* (1989) found that larger particles were more readily suspended than smaller ones and speeds of between 24-32 km/h were required to suspend particles 4.2-9.5 μm in diameter.

In an early study that recognized the importance of road surfaces as a source for atmospheric dust, Roberts *et al.* (1975) examined the cost and benefits of road dust control in Seattle's Industrial Valley. Emission rates for dust particles from unpaved road surfaces were determined using Mark II Cascade Impactors (Pilat *et al.*, 1970). In this study the sampler was mounted on a trailer and towed behind the vehicle. Roberts *et al.* (1975) found that the quantity of dust generated by vehicles increases exponentially with wind speed. For vehicles traveling at 32 km/h on their test gravel roads, Roberts *et al.* (1975) found that 27 percent of the suspended dust plume was composed of particles

< 10 μm and approximately 3.5 percent were below 2 μm. Roberts *et al.* (1975) concluded paving was the most cost effective method for reducing dust emissions on the 30.5 km of unpaved road in their study area, producing yearly benefits of close to 4 million dollars for the community. If paving could not be carried out, they suggested oiling the unpaved road surface as a viable alternative.

Nicholson and Branson (1990) report that a minimum velocity of 22 km/h is necessary to suspend dust from a paved road surface. It is more likely that the velocities required to entrain particles on unpaved roads is significantly less than for paved roads. An important process occurring on unpaved roads is the activation of larger particle sizes by the tires. These particles are effective in mobilizing dust particles upon impact with the surface and mirror the effect of saltating particles in a natural erosion system (Gillette, 1977; Gomes *et al.*, 1990). These bouncing particles impact on the surface and eject a range of particle sizes into the air stream, and may also shed micron- or sub-micron-sized secondary particles on impact with the surface or another object (Rosinski *et al.*, 1976; Gillette, 1977). The physics of saltation for sand-sized particles in natural erosion systems is reasonably well understood (Anderson *et al.* 1990). However, the ejection of dust-sized particles by the saltation process is still poorly understood (John *et al.*, 1991).

Other than the information inferred from the chemical composition of road dust and from multivariate relationships between downwind concentrations and vehicle variables, there is no detailed physical understanding of the effects of tire contact with particles and their suspension into the atmosphere. This knowledge is essential to understanding how these particles are suspended and how far they are transported.

Several other vehicle-related factors have been identified as contributing to the amount of particulates that are ejected from road surfaces. Dyck and Stukel (1976) suggested that vehicle weight and road type influenced dust emissions. Mollinger *et al.* (1993) found that the shape of vehicles can have a large impact on the amount of resuspension; a cylinder, an elliptical cylinder, and a rectangular solid were mounted on a pendulum which swung back and forth over dust-covered test areas. After twenty passes by the cylinder and elliptical cylinder, 65% and 45% of the dust remained in the test area, respectively. After twenty passes by the rectangular solid traveling at the same velocity, less than 20% of the dust remained. Vehicle shape appears to affect the turbulent structure of the wake shed by the vehicle, creating conditions which favor or reduce the entrainment of dust (Mollinger *et al.*, 1993). This study would suggest that it is possible to reduce suspension from road surfaces by altering the shape of vehicles.

2.2.7 AP-42 Empirical Dust Emission Model

The U.S. Environmental Protection Agency emission model AP-42 (U.S. EPA, 1988; Cowherd, et al., 1990) has been utilized as a predictor to estimate the emission of dust from unpaved roads, given as inputs either direct or surrogate measurements of the

emission-controlling factors which have just been discussed. The form of the AP-42 equation for unpaved roads is:

$$e = 0.61\left(\frac{s}{12}\right)\left(\frac{S}{48}\right)\left(\frac{W}{2.7}\right)^{0.7}\left(\frac{w}{4}\right)^{0.5}\left(\frac{365-p}{365}\right) \quad (2\text{-}4)$$

where e = emissions (kg/Vehicle Kilometer Traveled
s = percent silt content of road bed
S= average vehicle speed (km/h)
W = average vehicle weight (Mg)
w = number of tires (dimensionless)
p = number of days with ≥ 0.254 mm of precipitation

In the AP-42 model percent silt content applies to the percentage of particles in the road material that is <75 μm. The estimate of silt content is derived from grain size analysis of bulk surface samples that are swept from the surface.

This empirical relationship has been utilized to predict emission rates in many geographically diverse areas. Although the AP-42 equation is based on fundamentally flawed assumptions, it provides a useful, approximate means of attributing dust emissions to underlying physical factors. Several authors have advocated its use as a predictive tool (e.g., Cowherd *et al.*, 1988, 1990), although these applications have been criticized because of inadequacies in the AP-42 model and the data base from which it was developed. Principally, there is great uncertainty in the relationship between the amounts of PM_{10} size particles present in the road sediment and the processes or surficial conditions that control their resuspension either by entrainment in turbulent vehicle wakes or by the shearing action of tires. Detailed criticisms of AP-42 have been presented by several authors; Zimmer *et al.* (1992) note that usage of AP-42 outside of the range of variables used to develop the equation is mathematically incorrect. They also question the relationship between surface silt loadings and PM_{10} emission previously found for paved roads (Cowherd *et al.*, 1990). Recent evaluations by Zimmer *et al.* (1992) of the surficial controls of dust emissions from paved roads in Denver, Colorado found no discernible relationship between the percent silt loading and PM_{10} emissions.

Muleski and Stevens (1992) found that the traditional AP-42 model did not perform better than a simple regression model which only accounted for vehicle velocity in relation to dust emissions from unpaved road surfaces in the Phoenix, Arizona area. These investigators note that more than 90% of the tests that comprised the AP-42 data base were conducted with vehicle speeds lower than 56 km/hr and more than 80% of the data were derived from industrial haul roads involving use by very heavy vehicles. Muleski and Stevens (1992) also found legal vehicle speeds on unpaved roads in Arizona ranged between 56 and 89 km/hr, which was outside the vehicle velocity range of the original AP-42 data base. However, the AP-42 formalism continues to provide some

insight in terms of its approximate, empirical accounting of the major factors which influence dust emissions from unpaved roads.

2.2.8 Summary

The important variables affecting dust emissions from surfaces have been discussed in Sections 2.2.1 through 2.2.6 and are summarized in Table 2-4. The processes and variables affecting dust emissions are complex and their interactive effects are not simply multiplicative, but are synergistic. Prediction of dust emission rates by the AP-42 empirical equation is subject to major assumptions and uncertainties. Common measurement techniques and the importance of each factor with respect to dust emissions are stated in the second and third columns, respectively, of Table 2-4.

2.3 Road Dust Control Demonstration Studies

With the recognition that road systems are an important source for PM_{10} emissions, there have been a number of published attempts to quantify the effectiveness of physical and chemical suppressants for reducing dust emissions. The suppressant approaches have included both physical removal (e.g., sweeping or vacuuming) and the application of water and a range of other manufactured compounds. The quality of this type of study is dependent upon the thoroughness of the research design, the analytical approach, and the calculation of suppressant effectiveness. Basic research or methodological problems in demonstration studies have been examined by Beggs (1985), who found that studies which followed the U.S EPA (1981) workbook guidelines for evaluating effectiveness of dust suppressant technology usually provided sound information on the level of control efficiency of the technique or application being evaluated. The U.S. EPA (1981) document contains a set of guidelines to ensure that defensible results are obtained from control measure studies based on a research design which ensures that the amount and type of data generated will be sufficient to realize the objectives of the study, and that the data will be subjected to proper, rigorous statistical analysis. This section will critically review the methodologies and findings of published road dust control demonstration studies.

Early measurements in dust suppressant studies were concerned with measuring TSP (total suspended particulate); size-segregated particulate measurements were a secondary priority. ETC (1981) examined the changes in TSP using high-volume (hivol) samplers placed at different heights and locations within Erie County, New York, near three major industrial processing plants (Donner Hanna Coke Plant, Republic Steel Plant, and Hanna Furnace Plant). ETC (1981) tried to locate their samplers in upwind and downwind positions with respect to the suppressing technique or suppressant application. ETC (1981) collected samples during periods with and without precipitation to measure the effectiveness of natural suppression agents such as rain or snow. Samples were also collected after the control measures were implemented. Tests were run for a standard time period (8 hours) on days when the wind was blowing from the upwind to the

Table 2-4
Factors Affecting Dust Emissions

Factor	Measurement Technique	Importance
Particle size.	Seiving.	Indicates potential source loading of fine particles.
Surface loading.	Vacuum sampling and Sweep sampling of surface.	Indicates potential source loading for most susceptible particle population.
Moisture.	Gravimetric.	Moisture content effects cohesion of particles in the source sediments.
Aerodynamic surface roughness.	Anemometers for determing regional wind profile.	Will effect the transport of emissions after ejection.
Wind speed.	Anemometers.	Will effect the transport of emissions after ejection.
Vertical mixing.	Anemometers and tower mounted suspended sediment sampling.	Necessary for determination of vertical flux of particles.
Vehicular effects.	Measure vehicle speed.	Controls the mobilization of the particles and near surface transport processes in the turbulent vehicle wake.

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downwind monitors. Suppression techniques used were: 1) vacuum sweeping on paved roads; and 2) application of a petroleum based oil product on unpaved roads. ETC reported 40-60 percent reductions in TSP from sweeping and vacuuming of paved roads and a 40-60 percent reduction in TSP with oiling of unpaved roads. According to Beggs (1985), several factors cast doubt on the reliability of the ETC (1981) conclusions. Only a small number of tests were carried out (3 to 7) and there was no rigorous application of statistical analysis. In addition, the location of the samplers and the proximity of the test areas may have resulted in interference between sites. A similar study in Clark County, Nevada (Clark County Health District, Air Pollution Control Division, 1981) attempted to evaluate the cost-effectiveness of two chemical suppressants, magnesium chloride and Coherex; Beggs (1985) reviewed this study and noted shortcomings similar to the ETC (1981) study. The comparative effectiveness of the suppressants was not established because of poor experimental design.

Kinsey and Jirik (1982) evaluated the effectiveness of water spraying to reduce fugitive dust emissions from construction related activities in Minneapolis, Minnesota using the receptor-oriented approach. TSP and intermediate size particles (10-15μm) were measured upwind and downwind of the construction activity with high-volume samplers fitted with a 15 μm selective inlet and a 5-stage cascade impactor. Fine particles ($PM_{2.5}$) and PM_{10} were interpolated from the particle size curve developed by the cascade impactor results. According to Beggs (1985), the sampling and analysis procedures followed by Kinsey and Jirik (1982) were adequate. They extensively measured meteorological variables such as wind speed and direction, temperature and relative humidity, and other independent variables such as vehicle speed and number of passes. The problems in the Kinsey and Jirik (1982) study are related to insufficient sample sizes which could not be analyzed using statistical inference. They also failed to implement strict controls on the treated surface. Intermediate road work changed the surface to a sufficient degree so as to negate a comparison between the control and the original suppressant-treated surface. In an attempt to rectify the loss of control, Kinsey and Jirik (1982) used a simulation method to try to replicate the initial conditions to obtain the missing data and utilize the information from the simulation in their regression analysis. The data collected by Kinsey and Jirik (1982) were also compromised by interference or contamination by a point source or traditional fugitive dust source in the study area. The source was not discovered and its contribution to the measured concentrations was not accounted for in the analysis of the results. Kinsey and Jirik (1982) concluded that watering was the only viable control strategy for fugitive dust emissions from construction sites; however, Beggs (1985) criticized this finding because the effectiveness of watering was not tested against other alternative treatments.

The effectiveness of street vacuuming as a control measure was investigated by Seton *et al.* (1983), who employed a receptor-oriented approach, which is appropriate for this type of test because emissions are distributed over a wide area and may vary significantly with location. Utilizing a methodology that included extensive review of candidate sites and a research design that would provide enough data for subsequent

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statistical analysis, Seton *et al.* (1983) established two test areas with four sampling locations equipped with high-volume, low-volume, and dichotomous samplers (2.5 μm cutoff). Two sampling stations were within the first test area; one was within the second area. A fourth control site, used for measuring ambient loadings and as an indicator of regional trends, was established at a distance from the site of the sweeping operations. The street sweeping followed a rigorous schedule and important variables such as atmospheric dust concentrations, meteorological conditions and traffic flow were monitored on a 24 hour basis. The results of the Seton *et al.* (1983) study showed no statistically significant differences in particulate loadings at any of the three sites and the differences in air quality were attributed to random variations in the generation of particulate matter rather than to the effect of the control. This study represents an effective research design that reached meaningful, statistically significant conclusions based on sound analysis of the collected data. Several other studies that assessed street cleaning as an active means of reducing dust emissions failed to reach a definitive conclusion on the effectiveness of street cleaning as a control measure. The inconclusive nature of these studies can be attributed to the problems inherent in testing one independent variable while other influential independent variables are not controlled. For example, studies by Record and Bradway (1978) and Hewitt (1981) examined the effectiveness of vacuum street cleaning, but failed to consider or report the effects related to the meteorological conditions and traffic patterns. These uncontrolled variables could account for the differences in the measured emission factors.

Cuscino *et al.* (1983a) evaluated the effectiveness of vacuum sweeping of roads using size-resolved vertical profile measurements of atmospheric dust loading. They found wide variability in the dust concentrations measured through time after a sweeping/vacuuming, noting that this was most likely related to the meteorological variability. This study illustrates the importance of measuring independent variables that potentially have a greater effect on the dust loading than the intended control measure.

A significant methodological advance in estimating suppressant efficiency is illustrated in the study by Rosbury and Zimmer (1983) in their study of cost effectiveness of five types of dust suppressants on unpaved haul roads (watering, hygroscopic salt, surfactant, adhesive and bitumen). They used the methodology referred to by Frankel (1993) as exposure profiling. This technique involves tower monitoring of the ambient concentrations of suspended particulates upwind of the source and of the dust plume directly downwind. Rosbury and Zimmer (1983) used this technique to measure emission rates created by traffic on mining haul roads. The Rosbury and Zimmer tower was equipped with isokinetic samplers mounted at four different heights (1, 2, 5 and 9 m) to measure the TSP (<30 μm) and 2.5 μm particulate masses on filters for selected sampling intervals. They used Stacked Filter Units (SFU) to segregate the size fractions (Cahill, 1979). Their emission calculations for exposure profiling are based on the concept of conservation of mass (Rosbury and Zimmer, 1983). Mathematically, the emission rate per length of road for a given test was expressed as:

$$E = \int_0^H \frac{M(h)}{a} dh \qquad (2\text{-}6)$$

where: E = emission rate (mg/cm^2)
M = net particulate mass collected by profiler sampler (mg)
a = sampler intake area (cm^2)
h = vertical distance of sampler above ground level (cm)
H = vertical extent of the plume above ground level (cm)

Rosbury and Zimmer (1983) expressed the weight of particulate mass collected on the filters as "net exposures" (mg/cm^2) by dividing the mass (mg) by the sampler intake area (cm^2). The upwind and downwind particulate exposures were determined by particle size, from which the net exposure, attributable to the road at the sampling location, was calculated. The net exposure was calculated as the difference between total downwind and upwind exposures at each height. According to Rosbury and Zimmer (1983) the vertical extent of the dust plume can be estimated by accepting three assumptions. They estimated the vertical extent of the plume by extrapolating the net exposure values from the measured profile to an intersection with the height axis using a linearly scaled axis. The intersection of the extrapolated line with the height axis was accepted as the representative height of the plume. The second assumption was that the net exposure calculated at the 1 m sampling height was constant to ground level. The third assumption was that the net exposure can be defined as a continuous linear function between two consecutive data points. These assumptions are not well supported by work that has measured mass concentration with height in dust plumes. Direct field observations by several investigators have shown that the concentration of suspended sediment over eroding surfaces decreases as a power function of height with exponents ranging from -0.25 to -0.35 (Chepil and Woodruff, 1957; Shinn *et al.*, 1976; Gillette , 1977; Nickling, 1978). Goosens (1985) found a lower exponent value of -0.186 for a slowly-moving dust cloud raised by the passage of motor vehicles. Using a net exposure profile that is constant with height would tend to overestimate the emission rates because the vertical extent of the plume would be overestimated by extrapolation on the linear scale. The assumption of constant concentration with height below 1 m is also unsubstantiated.

Based on their emission calculations from an untreated control site and test sections that had been treated with dust suppressants, Rosbury and Zimmer (1983) calculated a control efficiency percentage with the equation:

$$C = (1 - Ec / Eu) \times 100 \qquad (2\text{-}7)$$

where: C = control efficiency (%)
Ec = controlled emission rate (mg/cm^2)
Eu = uncontrolled emission rate (mg/cm^2)

Each of the test sites was monitored simultaneously so a specific control efficiency could be calculated for each test surface. There was considerable variability in dust emission rates for the uncontrolled and the suppressed surfaces. Much of this variation was attributed to the effects of ambient meteorological conditions (especially precipitation), the types of vehicles using the road, and the initial road conditions. With simultaneous measurements all the variables except the choice of dust suppressant were the same for each section of road, providing a measure of control in the experiment. The physical basis for quantifying the net exposure measurements was compromised by the three assumptions concerning the concentration versus height relationship in the dust plume. However, the control efficiency percentage measure of Rosbury and Zimmer (1983) provides a reasonable relative measure of suppressant effectiveness compared to the control site and other test surfaces.

Rosbury and Zimmer (1983) used their calculated emission rates to judge effectiveness of different suppressant treatments for reducing dust emissions from unpaved haul roads. They also note that emission factors were not developed in their study, recognizing that in order to obtain emission factors that could be applied over a broad range of conditions, the variation in measured emission rates must be evaluated with respect to simultaneously monitored independent variables. Much of the variability that was observed in their emission rates was attributable to these variables. The general results of their suppressant control efficiency comparisons for chemical applications are shown in Table 2-5 and their cost/benefit results in Table 2-6.

Muleski and Cowherd (1987) employed a methodology similar to that of Rosbury and Zimmer (1983), to evaluate the effectiveness of chemical dust suppressants on private unpaved roads associated with the iron and steel industry. These investigators sampled particles in three size fractions (< 15 μm, < 10 μm, and < 2.5 μm), at heights up to 6 m above the surface. Control efficiencies were assessed up to 70 days after suppressant applications. They also measured the unpaved road surface characteristics: 1) percent silt and moisture content; and 2) the amount of loose surface material (kg/m^2). Muleski and Cowherd (1987) report emission rates for their unpaved road surfaces similar to those found by Rosbury and Zimmer (1983). Average control efficiencies of approximately 50% or more were found, for the first 30 days after application. Additionally, they found that for comparisons of control efficiency between suppressants, there were virtually no differences between suppressant types after 30 days.

Chow *et al.* (1990) conducted a street sweeping study specifically addressing the potential reduction of PM_{10} emissions from paved roads. Chow *et al.* (1990) used receptor models to determine the contributions from dust and from primary motor vehicle exhaust. They compared the ratio of primary geological contributions to motor vehicle contributions to PM_{10} between sweeping and non-sweeping periods. This comparison showed no significant differences in geological contributions between the different periods. The authors concluded that daily street sweeping with a regenerative air vacuum sweeper resulted in no detectable reductions in geological contributions to PM_{10} in the

Table 2-5
Comparison of Control Efficiency Results for Chemicals from Rosbury and Zimmer (1983)

Control	Device	Particle Size Cut, μm	Height, m	Isokinetic Flow	Average Calculated Control Efficiency (in percent) Mine 2 Mix	Mine 2 Top	Mine 2 Time, weeks	Mine 3 Mix	Mine 3 Top	Mine 3 Time, weeks
Salt	Tower, TSP	30	1-9	yes	44	58	1-4	10	21	2-3
	SSI	15	1.5	no	52	56		7	10	
	Tower, FP	2.5	1-9	yes	43	41		24	8	
	Ram-1	3.0	1.0	no	44	46		6	0	
Surfactant[a]	Tower, TSP	30	1-9	yes		33	1-5		19	1-2
	SSI	15	1.5	no		19			25	
	Tower, FP	2.5	1-9	yes		25			33	
	Ram-1	3.0	1.0	no		46			28	
Adhesive	Tower, TSP	30	1-9	yes	54	35	1-4	38		1-3
	SSI	15	1.5	no	47	29		49		
	Tower, FP	2.5	1-9	yes	37	30		46		
	Ram-1	3.0	1.0	no	36	48		27		
Bitumen	Tower, TSP	30	1-9	yes	20	24	1-4	44	56	
	SSI	15	1.5	no	22	36		55	80	
	Tower, FP	2.5	1-9	yes	26	28		33	73	
	Ram-1	3.0	1.0	no	54	51		50		

[a] All topical applications

Table 2-6
Preliminary Cost-effectiveness Comparison to Achieve 50 Percent Control from Rosbury and Zimmer (1983)

	Cost of chemical application/mile, $[a]		Cost of grading, watering/week, $			Cost per Week	
Control[b]	East	West	Grading	Water	Applications required to average 50% control	East	West
Salt							
Mixed	7,240	11,263	0	143	1 per 4 weeks	1,953	2,959
Topical	3,260	5,058	0	143	1 per 4 weeks	958	1,408
Adhesive							
Mixed	4,813	7,644	0	143	1 per 4 weeks	1,346	2,054
Water			375	1,710	120 per week	2,085	2,085

[a] Includes surface preparation, material cost, and application. Material cost is delivered cost in East (southern Illinois) and West (Rock Springs). Material cost is Liquidow, $0.36/gallon West; Flambinder $0.33/gallon East, $0.47/gallon West. Assumes 50-foot and 60-foot-wide road in East and West.

[b] Required application intervals could not be estimated for adhesive-topical, surfactant, or bitumens. Comparative costs could not be calculated.

sweeping area. The street sweeper used in the study proved to be ineffective for reducing the PM_{10} emissions from the road surface.

Stevens (1991) used exposure profiling and a conservation of mass approach to calculate emission rates of PM_{10} and TSP from unpaved road surfaces in Arizona. The purpose of her study was to recommend a mathematical model for estimating emissions from this type of surface and examine the feasibility of using an ambient concentration standard to regulate public unpaved roads in Arizona. Although not a dust suppressant effectiveness study, Stevens (1991), provides emission rate estimates for three locations in Arizona along with some measures of surface characteristics including silt content and percent moisture.

Grau (1993) undertook an evaluation of methods for controlling dust emissions from surfaces that may emit dust during military operations, including unpaved roads. This study included a screening process; suppressant-treated soil specimens were prepared under controlled laboratory conditions to determine their performance when subjected to simulated field conditions. The screening tests included one minute blasts from 80 km/hr and 160 km/hr air jets at 20° from the horizontal, simulated rainfall, a repeat of the air impingement test, and simulated jet fuel spills followed by another air jet test. Forty-nine suppressants were screened; eleven were accepted and subjected to limited field tests. Suppressant effectiveness judgments were based on observers' subjective perceptions. The lack of quantitative data compromises this study and it cannot be placed in the context of previous work.

Mitra *et al.* (1993) have proposed a tracer technique for estimating emission rates of PM_{10} from road surfaces. According to Mitra *et al.* (1993), using tracers reduces the need for measuring vertical profile measurements of concentrations and meteorological variables. In this methodology the tracer release is deployed to completely simulate the dust source. From a knowledge of the tracer release rate and downwind concentration measures of dust and tracer concentration the emission rate of the source can be obtained. This relationship is illustrated by the equation:

$$Q_p = Q_t \times \frac{C_p}{C_t} \qquad (2\text{-}8)$$

where: Q_p = PM_{10} emission rate (µg/m s)
Q_t = measured tracer release rate (µg/m s)
C_p = downwind PM_{10} concentration (µg/m^3)
C_t = downwind tracer concentration (µg/m^3)

A critical assumption in applying the tracer method is that the tracer and the dust disperse from the source in similar ways. A second assumption is that deposition of particles between the source and the downwind samplers is minimal because the tracer does not undergo deposition. The use of gaseous tracers for estimating PM_{10} is

promising only if these assumptions are justified (Frankel, 1993). Obviously, the validity of the assumptions would be dependent on the emission height and the meteorological conditions. For example, if the emission of dust were close to the ground, significant deposition may occur within 100 m downwind from the source, especially under certain weather conditions. Significant reflection of the tracer from the ground could occur over the same distance while the dust would tend to stick to any surface it impacted.

Mitra *et al.* (1993) recommend the use of sulfur hexafluoride as a tracer gas to model the downwind movement of PM_{10}. According to Mitra *et al.* (1993), if the tracer accurately simulates the source of PM_{10} from the road source, then the ratio of PM_{10} to tracer concentrations (after subtraction of background concentrations) is equal to the ratio of the PM_{10} to tracer source strengths. With this methodology the emission rate of PM_{10} can be calculated directly from the measured tracer release rate and the measured concentrations using Equation 2.8. In order for this method to be employed successfully, Frankel (1993) recommends that the dust source geometry and tracer source location must facilitate plume mixing, and that both dust and tracer sampling should be done at a number of locations and distances. Mitra *et al.* (1993) describe a methodology that attempts to meet these criteria. Mitra *et al.* (1993) propose that the tracer data be utilized to optimize a roadway dispersion model so the model can be used with measured PM_{10} concentrations to back-calculate PM_{10} emission rates. If the model provides reasonably accurate predictions based on tracer data, Mitra *et al.* (1993) propose its use to estimate concentrations of PM_{10} for measurement periods where there are no tracer data.

Flocchini *et al.* (1994) have attempted to quantify fugitive dust emissions of PM_{10} size particles from unpaved roads that are dominated by agriculture-related vehicular traffic in the San Joaquin Valley of California, and assess the effectiveness of several suppressant techniques. They compared the relative effectiveness of a watering, gravel cover, lignin sulfonate, magnesium chloride, oiling and nonhazardous crude oil. PM_{10} and size-segregated particle mass concentrations were measured with IMPROVE and DRUM samplers at upwind and downwind locations with respect to the control and treated test areas. The suspended sediment concentration gradients with height were measured in two size ranges, above and below $PM_{2.5}$, with stacked filter unit (SFU) samplers (Cahill, *et al.*,1990). In addition to the emission rates, Flocchini *et al.* (1994) measured surface characteristics associated with each of their test plots. Samples of loose surface material were collected for each test plot to determine the soil type, mass per unit area, moisture content, and percentage of fine silt (<75 μm particle diameter). Surface samples were also analyzed using resuspension techniques (Chow *et al.*, 1994) to measure the relative potential for PM_{10} emissions from each surface.

According to Flocchini *et al.* (1994), source measured contributions from an unpaved road were isolated by using upwind measurements as background. The upwind concentration measurement (μg/m^3) was subtracted from a downwind measurement leaving only the concentration at the measurement location (10 m downwind, 3.3 m in

height) resulting from vehicles traveling on the unpaved roads. Emission rates in mg/km were calculated from the equation:

$$X = \frac{VHC}{N} \times 3600 \frac{\text{sec}}{hr} \qquad (2\text{-}9)$$

where: X = emission rate per vehicle (mg/km)
V = wind speed perpendicular to road (m/s)
H = box height (m)
C = PM_{10} aerosol concentration 10 m from middle of road (μg/m^3)
N = number of vehicles per hour

The emission quantification of Flocchini *et al.* (1994) is based on the "sliding box" model (Feeney *et al.*, 1975; Barone *et al.*, 1981), which uses the airborne PM_{10} concentrations in an air volume over a sample period to quantify the emission rate. The "box" dimensions are based on an estimated length determined by the wind speed perpendicular to the road and the height is determined from the vertical profile of total suspended particulates measured from 3 to 9 m. The box height is based on an integration calculation of the aerosol concentration change with height between 3 and 9 m which is then divided by the maximum measured concentration, producing a value with the units of length. The horizontal mass flux per unit of road length and time is calculated by multiplying the PM_{10} concentration (μg/m^3) measured 10 m downwind from the road by windspeed (m/s) and box height (m). Dividing by the number of vehicles per hour results in the mass emission per vehicle distance traveled. According to Flocchini *et al.* (1994), the emission rate model assumes that PM_{10} concentrations are constant with height. They recognize that this is not true and utilize the concentration profile data, integrated with respect to height, to calculate the box height which acts as a correction factor. However, the justification for this correction factor or its physical basis is not clear. Flocchini *et al.* (1994) quantify the effectiveness of a suppressant by comparing the emission rates from a control site with the emission rates measured at the suppressant application sites. Reduction efficiency is presented as the percent reduction in emission rates between the control and the suppressant site. The rankings of the unpaved road treatments for their effectiveness in reducing PM_{10} emissions are listed in Table 2-7.

The results of the Flocchini *et al.* (1994) study suffer from some of the same problems identified for the other suppressant studies by Beggs (1985). The sampling strategy appears sound; however, the design and execution make it difficult to objectively discern the apparent effectiveness attributed by Flocchini *et al.* (1994) to the suppressants. Three of the suppressants were applied under controlled conditions by contractors (lignin, MgCl, and nonhazardous crude oil), but the road oil and gravel treatments were done at an earlier time with no indication of the time between application and the emission testing. The choice of three different locations for the suppressant tests increases the difficulty of comparison because no indication is given regarding textural differences in the road bed between the sites (Rosbury and Zimmer (1983) noted that

Table 2-7
Rankings of the Unpaved Road Treatments for their Effectiveness in Reducing PM_{10} emissions from Flocchini *et al.* (1994)

Effectiveness Rank	Treatment	PM_{10} Reduction Efficiency
1	Recycled Oil Mix	~ 99%
2	Lignin Sulfonate	99%
3	Magnesium Chloride	98%
4	Water	87% ± 6%
5	Oiled Road	59% ± 12%
6	Speed Reduction (25 to 10 mph)	58% ± 3%
7	Speed Reduction (25 to 15 mph)	42% ± 35%
**	Gravel	Emissions from the gravel test section appeared to exceed those of the untreated section.

textural differences in the road bed had an effect on the performance of the dust suppressant).

Other problems in the Flocchini *et al.* (1994) study undermine their conclusions concerning the effectiveness of the tested suppressants. As Beggs (1985) noted, small sample sizes seriously affect the quality of the analysis. For this study, only 28 tests were carried out, with a maximum of three tests per treatment site. This precluded any rigorous statistical analysis, and makes any comparison of mean reduction efficiencies and their associated standard deviations between the treatments of questionable validity.

The methodologies and critical points of these published dust control demonstration studies are summarized in Table 2-8. The accurate estimation of dust emissions from a line or area source requires upwind and downwind exposure profiling. Tracer approaches show some promise, but are dependent upon major assumptions concerning how well the tracer material mimics the dust particles in transport. Previous exposure profiling studies have utilized very short suppressant test sections and very limited sampling arrays. Uncertainties in the previous flux estimates arise because of several reasons, including the following:

- Particle measurements close to the emitting source give point estimates of concentrations embedded within clouds and plumes of material which are highly variable in space and time.
- Particle measurements taken at any appreciable distance from the source are subject to uncertainty because heavier particles may have fallen out of the plume before it reaches the sampler, and because the dilution which occurs with downwind transport must be assumed;
- Particle measurements taken near the surface may not accurately represent the concentrations of particles which are found at higher levels in the plume (i.e., significant uncertainties are involved in assuming plume structure by extrapolating upwards).

These shortcomings are addressed in the measurement design presented in Section 5 of this Study Plan.

2.4 Dust Suppressant Substances

Although asphalt or concrete paving is an effective form of dust suppression, this option is not cost-effective for rural roads which have low annual traffic volumes. The options are different for publicly-held county roads, which are open to all types of traffic, as opposed to privately-held unpaved agricultural roads. The paving process may interfere with agricultural activities adjacent to private unpaved agricultural roads. Chemical applications to road surfaces within agriculturally productive areas must also

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Table 2-8
Summary of Previous Dust Demonstration Research

Study	Purpose	Methodology	Comments
Roberts *et al.* (1975)	Examined the cost and benefits of road dust control in Seattle's Industrial Valley	Moving point source measurements	Quantity of dust generated by vehicles increases exponentially with wind speed. Paving was the most cost effective method for reducing dust emissions
Seton *et al.* (1983)	Examine the effectiveness of street vacuuming as a control measure	A receptor-oriented approach.	No statistically significant difference in particulate loadings at any of the three sites. An effective research design that reached meaningful conclusions based on sound analysis of the collected data
Record and Bradway (1978)	Examine the effectiveness of street vacuuming as a control measure.	A receptor-oriented approach.	Failed to consider or report the effects related to the meteorological conditions and traffic patterns.
Hewitt (1981)	Examine the effectiveness of street vacuuming as a control measure.	A receptor-oriented approach.	Failed to consider or report the effects related to the meteorological conditions and traffic patterns.
Cuscino *et al.* (1983)	Examine the effectiveness of street vacuuming as a control measure.	Size resolved vertical profile measurements of atmospheric dust loading.	Found wide variability in the dust concentrations measured through time after a sweeping/ vacuuming. Independent variables have potentially a greater effect on the dust loading than the intended control measure.
Chow *et al.* (1990)	Examine the effectiveness of street vacuuming as a control measure for PM_{10}	Receptor models to determine the contributions from dust and from primary motor vehicle exhaust.	Daily street sweeping with a regenerative air vacuum sweeper resulted in no detectable reductions in geological contributions to PM_{10} in the sweeping area

Table 2-8 (continued)
Summary of Previous Dust Demonstration Research

Study	Purpose	Methodology	Comments
ETC (1981)	Examined the changes in TSP emissions before and after suppression.	A receptor oriented methodological approach	Only a small number of tests were carried out (3 to 7) and there was no rigorous application of statistical analysis.
Clark County Health District, Air Pollution Control Division, 1981	Evaluate the cost-effectiveness of two chemical suppressants	A receptor oriented methodological approach.	Effectiveness of one suppressant over the other was not established because of poor experimental design.
Kinsey and Jirik (1982)	Evaluated the effectiveness of water spraying to reduce fugitive dust emissions from construction sites.	A receptor oriented methodological approach. Fine particles and PM_{10} were interpolated.	Insufficient sample sizes, lack of strict controls.
Dyck and Stukel, 1976	describe dust emissions by vehicle transport over the "infinite line source".	Develop emission rate equation for vehicles traveling on unpaved roads.	Methodological approach for calculating emission rates could be used for comparison purposes in a strategy that deployed receptor measurements at one height downwind of the road.
Rosbury and Zimmer (1983)	Study effectiveness of five types of dust suppressants on unpaved haul roads (watering, hygroscopic salt, surfactant, adhesive and bitumen).	Exposure profiling, emission rates calculated with conservation of mass principles.	Determined control efficiencies, observed variability in the variables were key to explaining the measured emission rates and compared effectiveness of suppressants.

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Table 2-8 (continued)
Summary of Previous Dust Demonstration Research

Study	Purpose	Methodology	Comments
Muleski and Cowherd (1987)	Evaluate the effectiveness of chemical dust suppressants on unpaved roads at industrial sites.	Exposure profiling, emission rates calculated with conservation of mass principles.	Determined temporal changes in effectiveness through 30-70 days of road use.
Stevens (1991)	Recommend a mathematical model for estimating emissions from unpaved roads in Arizona.	Exposure profiling, emission rates calculated with conservation of mass principles.	Emission rate estimates for three locations in Arizona along with some measures of surface characteristics including silt content and percent moisture
Grau (1993)	Evaluate methods for controlling dust emissions from surface that may emit dust during military operations.	Subjective assessment of plume intensity from emitting surfaces.	Used an extensive pre-screening process to determine best potential suppressants for field study. A qualitative study.
Flocchini *et al.* (1994)	Quantify fugitive dust emissions of PM_{10} size particles from unpaved roads by agriculture vehicle use	The "sliding box " model. Upwind - downwind sampling.	Sampling strategy appears sound, however, the design and execution make it difficult to objectively discern the apparent effectiveness attributed to the suppressants

Table 2-8 (continued)
Summary of Previous Dust Demonstration Research

Study	Purpose	Methodology	Comments
Mitra *et al.* (1993)	Develop a tracer technique for estimating emission rates of PM_{10} from road surfaces	Knowledge of the tracer release rate and downwind concentration measures of dust and tracer results in dust emission rate calculation	The assumptions of similar dispersion and no particulate deposition are questionable. The validity of the assumptions would be dependent on the emission height and the meteorological conditions

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meet standards set by the U.S. Department of Agriculture's Food Products Act. In the San Joaquin Valley Unified Air Pollution Control District, suppressant products must also conform to Rule 4641, which restricts the use of certain asphalt products due to their potential for emission of volatile organic compounds (VOC). Wet suppression is often used on industrial haul roads and is accomplished by repeated watering with water trucks during periods when traffic is present. This is not a viable option for public county roads which have irregular usage.

Additional physical methods aimed at reducing dust emissions from road surfaces include application of new surface material, oiling, and installation of "road carpet" (Drehmel *et al.*, 1978; Tackett *et al.*, 1980). As the surface material on an unpaved road breaks down under use into finer particles, application of new surface aggregate is thought to result in lower fine particle content and reduction of particulate emissions. Oiling with waste vehicle or industrial oil reduces dust emissions as fine particles adhere to larger particles due to the cohesion created by the oil. This method of control is generally effective for a period of one year but potential problems with contamination of water resources and VOC emissions have resulted in decreased oiling in recent years.

The dust suppressant products identified during this study are listed in Table A-1, Appendix A. The information in Table A-1 includes and extends a database compiled by California's South Coast Air Quality Management District (personal communication, M. Zeldin, 1995). These products are categorized according to their composition and the suppressant mechanism they employ. Cowherd *et al.* (1990) classify suppressant compounds as "Bitumens, Salts, and Adhesives". ("Bitumen" is a generic term for coal, petroleum or asphalt compounds.) A more detailed classification is as follows:

1. Salts: These are hygroscopic compounds such as magnesium chloride or calcium chloride. They adsorb water when the RH gets above about 50%. Water improves the adherence of the soil particles to each other. Salts are water soluble, thus precipitation tends to wash them away.

2. Resin or petroleum emulsions: These are non-water-soluble organic carbon compounds which are "emulsified" or suspended in water. When these emulsions are sprayed onto soil, they stick the soil particles together, and eventually harden to form a solid mass. There are several emulsion products based on tree resin, petroleum, or asphalt compounds.

3. Polymers: These apparently act as adhesives which may be more effective than ordinary resins because their molecular structure is a long chain which in theory may be able to stick to more particles, or bridge larger particle-to-particle gaps.

4. Surfactants: These chemicals reduce water surface tension, allowing available moisture to more effectively wet the particles and aggregates in the surface layer.

5. Bitumens: Material such as asphalt or road oil.

6. Adhesives: Example: Lignin Sulfonate, a syrupy wood product (paper mill by-product) which creates a sticky but water soluble layer.

5. Solid Materials: One example is a petroleum industry by-product, made by mixing recycled materials with soil.

Some suppressants require repeated application at frequencies generally on the order of weeks or months, depending on road surface conditions, application intensity, traffic volume, vehicle weight, and environmental factors such as precipitation and temperature. Most suppressant manufacturers recommend grading and wetting roads before applying their products. Most products can then be dispensed as liquids from a truck equipped with a tank and spray bar. The spray is intended to inject the suppressant as deeply as possible into the road material. Solid materials are spread and then mixed into the road with a grader.

Other physical solutions to dust emission abatement on unpaved roads or unpaved shoulders include windscreens and vegetation control. Windscreens are usually manufactured structures utilized for short term control of dust deflation problems and are often portable. They are constructed of fabric, wood or other light weight material and are designed as porous screens or lattices. Their principle of operation is to reduce the erosive power of the wind by effectively absorbing some of its momentum. Windscreens are useful in preventing the deposition of windblown dust onto roads and shoulders, but their effectiveness in reducing dust emissions from roads and shoulders has not been demonstrated . Vegetation is an alternative to manufactured wind screens and it can be useful in stabilizing unpaved shoulders if the proper environmental conditions are present. The deliberate introduction of vegetation requires advance planning consistent with growth requirements; furthermore, some county road departments oppose the deliberate introduction of vegetation onto road shoulders because of the potential fire hazard which is created. Many windscreen and vegetation products are available, but are not included in Table A-1 because they are not utilized in this study.

The following types of suppressants are unsuitable for this Demonstration Study: 1) products which violate the SJVUAPCD Rule 4641, or any other applicable statutes regarding water quality or product toxicity; 2) water sprays, owing to their temporary nature; 3) vegetation products, with the possible exception of already-existing vegetation on the unpaved shoulder test sites; and 4) products involving prohibitive logistical or transportation costs, or application technology. The suppressant product selection procedure used in this study is detailed in Section 5.1.

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2.5 Conclusions

This section has reviewed dust emission mechanisms and the important factors and variables which control them. The relationships of these critical factors with each other, and their combined effect on emission rates is poorly understood. The effects may not simply be additive or multiplicative with respect to the emission process. Previous dust suppression studies have involved incomplete measurements and monitoring of both critical surface characteristics and suspended particles, resulting in findings which are flawed by major assumptions and uncertainties. The following are needed in order to resolve the relationships between surface characteristics and dust emission rates, and how these are affected by suppressants:

- Measurement of the important surface characteristics that control dust emissions;
- Measurements of dust emission rates for unpaved roads and shoulders;
- Measurements of ambient meteorology and upwind dust profiles, to isolate the dust emissions attributable to the test surface;
- A significant number of measurements for parametric statistical analysis of the data; and
- Comparison of the data with predictive and empirical models.

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basis by size class, may be of greater importance because it is this size distribution which will characterize the immediate erosion potential of a surface. Gillette *et al.* (1980) have shown that the modal particle size has a strong correlation with threshold wind friction velocity. This may also be important for entrainment by the turbulent wakes of passing vehicles, but it is not known how the size of the particles affects ejection by rotating tires.

In addition to the percent of silt that comprises the road surface, the particle and aggregate size distribution will determine the ability of the road to compact and also affect the residence time of the suppressant within the sediment matrix. If the road bed is very sandy, the suppressants may not remain at the surface where they are most effective, but may move downward into sediment. If the road bed is dominated by a high percentage of silt and clay, some dust suppressants may not have the ability to make the particles cohesive (Rosbury and Zimmer, 1983).

Methodologies developed to measure the particle size distribution of sediments can be broadly broken into two categories: mechanical or electronic. The standard techniques are:

Mechanical:
- dry sieving
- wet sieving
- pipette or hydrometer (for silts and clays)
- based on aerodynamic properties - fall column - air elutriation

Electronic:
- Coulter Counter
- sedigraph
- laser siffraction
- video imaging

3.2.1 Sieving

The most commonly used mechanical method for particle sizing is sieving. Two different sieve technologies have been advanced as methods to quantify the particle size and the aggregate size distribution of earth materials. The standard methodology outlined in the ASTM manual (ASTM, 1990b) is for a disaggregated sediment. This technique utilizes circular sieves stacked in decreasing opening size, usually with a logarithmic decrease in the sieve openings between successive sieves. The stack of sieves is mechanically shaken or vibrated for a set period of time and the respective portions retained on each sieve are weighed. The percent weight associated with each size class is then calculated. Statistical parameters associated with the distribution (mean, mode, standard deviation, etc.) can be calculated using the method of moments (Folk, 1980).

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statistical parameters of geometric mean diameter and geometric standard deviation (Gardner, 1956). These measures can be applied if the distributions of aggregates are log-normal, which has been found to be the case for agricultural soils. The apparatus described by Chepil (1952) was also found to be useful for determining the relative mechanical stability and the state of aggregation of soil in a dry condition. Mechanical stability, as determined from the relative resistance of soil aggregates to breakdown by repeated sieving, was found to vary directly with the resistance of the soil aggregates to abrasion and impacts with each other and the ground surface during transport by wind. This type of sieve analysis is favored for agricultural research examining the relationship between dry aggregate structure and wind erodibility (Zobeck, 1991), although rotary sieves setups are not as readily available as standard sieves. Measurement of the mechanical stability of the treated road surface material may also be helpful in assessing the ability of the dust suppressant to act as a binding agent, preventing breakdown and resuspension of road sediments.

Sieve analysis using the standard techniques outlined by the ASTM (ASTM, 1990a; 1990b) or Folk (1980) are relatively easy to carry out and have been well documented in the literature. The use of standard, non-rotary sieving techniques to determine the aggregate size distribution of surficial sediments has not been standardized. However, Cowherd *et al.* (1990) describe a "soft-sieve" methodology adapted from procedures developed by Chepil (1952). This method uses standard sieves as a substitute for rotary sieves, but a direct comparison between the two methodologies was not reported and the suitability of this method as a substitute for rotary sieving was not demonstrated. In this procedure, five sieves (4,000, 2,000, 1,000, 500 and 250 µm) and a pan are nested together and loose surface material is placed in the top sieve. The sieve nest is sealed with a lid and the whole stack is rotated by hand in broad sweeping motions in the horizontal plane. Twenty rotations are completed at a speed described by Cowherd *et al.* (1990) as being that speed which is just necessary to achieve some relative horizontal motion between the sieve and the particles. The distribution of aggregate sizes is determined from the mass retained on each of the sieves and in the pan.

The changes within the aggregate structure of surface sediments, caused by the mechanical action applied within a vibrating sieve stack, have not been well documented. This poses a problem for relating the *in situ* aggregate and particle sizes to the measured distribution after sieving. There will undoubtedly be a change in the mass distribution for some size classes. The amount of aggregate breakdown will be a function of the strength of the dry aggregate stability (Zobeck, 1991). However, as a means for measuring the relative changes in particle size distribution of the road surface material the standardized methodology described by Cowherd *et al.* (1990) is the most feasible approach.

3.2.3 Electronic Techniques

Electronic particle sizers have become important instruments for determining the particle size distributions of mineral materials. They are capable of measuring representative particle size distributions for extremely small sample sizes. The common electronic particle sizers are the:

- Coulter Counter;
- sedigraph;
- laser diffraction spectrometer; and
- video imaging systems.

The Coulter Counter has become one of the most commonly used of the electronic techniques. This technology has been adapted to measure both mineral grain size distributions as well as water-stable aggregates (Kiefert *et al.*, 1992). Coulter Counters or Multisizers can give specific grain counts along with particle size distributions and operate in the size range from 0.4 to 280 µm. The laser diffraction technique is also becoming a standard methodology to measure much wider ranges of particle size distributions and is capable of resolving particle size distributions between 0.4 and 2,000 µm. The sedigraph utilizes fall velocities of particles in water to determine the mineral grain particle size distribution. Instruments to measure particle size distributions have also been developed using video imaging technology. The Spectrex Laser Particle Counter (Spectrex, Redwood City CA) utilizes the principle of signal interruption of a rotating laser beam by grains suspended in a column of water. The duration of signal interruption and speed of beam rotation is related to particle size (Hall, 1988).

3.3 Strength of Surface Materials

Unpaved roads or other soil surfaces must first be broken down (comminuted) into suspendable particles before significant dust events can occur. The ability of surfaces to resist breakdown is related to their cohesive strength. The strength of the surface can be characterized as a complete unit if it is fully crusted, or else characterized by the stability of its component aggregates to resist breakdown. The strength of soil crusts has been measured with several techniques, but a standardized test methodology to assess *in situ* shear strength has not been established. For natural desert surfaces, Gillette *et al.* (1982) used the modulus of rupture (Richards, 1953) as a measure of the strength of surface crusts and related this property to the soils' ability to resist entrainment by the wind in both disturbed and undisturbed conditions. The modulus of rupture (N/m^2) is determined from the impressed force on a briquette of earth material which causes the briquette to fail. Gillette *et al.* (1982) measured the modulus of rupture for intact pieces of the surface crust, as well as for reconstituted crust samples, following the methodology of Richards (1953). They encountered significant difficulty in removing intact crust samples that met the criteria of Richards (1953) and most of their analyses of the

relationships between the moduli of rupture and soil compositions were based on reconstituted samples. They noted that there were significant differences between field and laboratory moduli of rupture which they attributed to the different processes of crust formation. However, six of their nine samples show agreement within two standard deviations of the differences between field and laboratory measures of the moduli of rupture.

Gillette *et al.* (1982) found that the modulus of rupture for soils in an undisturbed condition could also be related to the surface's threshold friction velocity even after it had been disturbed by the passage of a vehicle. They found that for soils having a modulus of rupture less than 1 x 10^3 N/m^2, the threshold friction velocities for entrainment were less than 0.45 m/s. For soils with modulus of rupture greater than 2 x 10^3 N/m^2, they found no clear relationship.

Bradford and Grossman (1982) used a fall-cone apparatus to measure the shear strength (N/m^2) of the near-surface soil in agricultural fields. According to Bradford and Grossman (1982), the fall cone penetrometer agrees well with mean values of shear strength measured with shear box and unconfined compression test methods. Bradford and Grossman (1982) found that the test was relatively easy to perform and allowed for evaluation of changes in the soil strength throughout the year. However, they also noted that the test was strongly influenced by water potential. The changing strength of the near-surface soil as a function of depth also significantly affected the test results. The apparatus did not give consistent readings for cones of different mass and size, making the interpretation of field data difficult when comparing soils tested with different configurations of the apparatus.

Instruments that are utilized by soil scientists to assess the *in situ* soil characteristics, compaction, and shear strength, are also available. These include penetrometers that measure compression strength and small shear vanes that measure surface shear strength. Both of these types of instruments can provide measures of applied pressure that cause failure in the earth material being tested. The strength characteristics of the road and the effects of suppressant application upon them will control to some extant how well the surface resists breakdown by vehicular traffic. For this project, the Proctor Penetrometer (ELE International, Lake Bluff, Illinois) will be used to measure the compression strength of the untreated and treated road test sections. The strength measurements obtained with these instruments are similar to the modulus of rupture test used by Gillette *et al.* (1982) to assess the crustal strength of desert soil surfaces.

It is useful to quantify the resistance (stability) of unpaved road surface aggregates to mechanical breakdown. Quantifying this property and its relationship to an applied dust suppressant, as well as to the measured PM_{10} emission factors, will provide a useful index that relates aggregate stability to PM_{10} emission rates. Rotary sieves (Chepil, 1952, Section 3.2.1) can be used for this purpose. Alternatively, a methodology based

on the use of standard sieving techniques may be applicable for an assessment of aggregate stability. Toogood (1978) used 5 g of air-dried samples of aggregates 1 to 2 mm in diameter for estimating dry stability. A vigorous sieving procedure utilized a 1 mm sieve for a one-minute period, after which the sample was weighed. A further four minutes of sieving followed and the weight of the sample remaining after five minutes of total shaking, expressed as a percentage of the weight remaining after one minute, indicated the stability of the dry aggregates. The methodology described by Cowherd *et al.* (1990) to assess the aggregate size distribution for determining the relationship of the modal particle size to threshold friction velocity can also provide a measure of the state of the aggregate structure of the road surface. Monitoring the changes in dry aggregate structure following repeated sieving for set periods of time can provide an index of how each of the treated road sediments resists mechanical breakdown.

In a study of unpaved haul roads in areas of mine operation, Rosbury and Zimmer (1983) measured the Atterburg limits of the road bed. These measures are designed to relate the strength characteristics of a soil to its moisture content (Terzaghi and Peck, 1969). By measuring the liquid limits of the road bed, Rosbury and Zimmer (1983) attempted to determine the relationship between load bearing strength and dust emissions for selected industrial haul roads. They presented no conclusive evidence in their report to support the hypothesized relationship. In this project, the role of lighter vehicles in dust emissions from unpaved roads is being examined. Lighter vehicles create disturbance of the surface to much shallower depths than large trucks, and the characteristics of the surface and near-surface strength are more important variables to consider than the deformation of the road at depth. Once the surface crust or matrix has been sufficiently broken by vehicle traffic and weathering, aggregates will be left on the surface. These aggregates will also have an inherent strength that will resist further breakdown. The strength and resistance of the aggregates can also be measured.

3.4 Wind Tunnel Emissions Testing Methodology

Wind tunnels have been used to measure emission rates of dust from coal piles (Cowherd, 1983; Axetell and Cowherd, 1984; Cuscino *et al.*, 1983b), wood chip piles (Nickling and Gillies, 1987), agricultural surfaces (Gillies, 1987), construction sites and mine tailings (Nickling and Gillies, 1989), and desert surfaces (Gillette, 1978; Nickling and Gillies, 1989). Frankel (1993) noted that portable wind tunnel testing is a superior method for quantifying wind erosion. The emission rates associated with wind tunnel testing are usually expressed as horizontal (g/m-s) and vertical fluxes (μg/m^2-s) using mass and concentration measurements from sediment traps and isokinetic suspended sediment samplers (Nickling and Gillies, 1989). Axetell and Cowherd (1984) express emission rates using a mass balance approach determined from a suspended sediment concentration measured in the air exiting the rear of the tunnel (μg/m^3), the tunnel flow rate (m^3/s), and the area of the exposed surface within the tunnel (m^2). Both techniques yield the same emission rate measures for suspended particulates, in terms of μg/m^2-s.

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Wind tunnel testing is a potentially important technique for measuring and comparing emission rates from suppressant-treated surfaces, but has not been applied to unpaved road demonstration studies. Dust emission-rate data from wind tunnels characterize the activation of surfaces by aerodynamic forces which simulate natural aerodynamic boundary layers. Wind tunnels have not yet been modified to simulate entrainment of dust particles by vehicular action. Wind tunnel testing of sediment entrainment and transport allows good control of the variables that effect erosion and facilitates comparison between test surfaces. Wind tunnel measurements are not significantly influenced by ambient wind or other meteorological conditions. Furthermore, this methodology allows numerous replicate tests, which may help to formulate emission factors for similar surfaces and not simply emission rates. The generation of emission factors may be more feasible with wind tunnel testing because of the high level of experimental control of the erosive conditions coupled with measurement of the controlling surface variables. The wind tunnel methodology is suitable for assessing emission rates and suppressant effectiveness measures for unpaved shoulders, because aerodynamic forces are principally responsible for dust suspension from this type of source. A critical review of wind tunnels, their dimensions and flow characteristics which are required to obtain adequate measures of emission rates, and conclusions regarding their utility as instruments to measure dust fluxes, is presented by Nickling (1995).

3.5 Upwind/Downwind Sampling of Suspended Particles

3.5.1 Measurement of Suspended Particle Concentrations

The sampling of suspended sediment particles presents a challenge to instrument designers. Table 3-1 lists several types of sampling systems which have been used to measure particles suspended by vehicular traffic on roads. Certain design requirements are necessary to obtain precise measurements; the most critical requirement is to establish isokinetic sampling conditions, which ensure that massive particles accurately track the air flow in the sampler inlet. Without this provision, the sampler's data may be inaccurate. However, the isokinetic criterion is difficult to satisfy in real time, because wind speeds and directions change very quickly, and most samplers cannot adjust to the changed conditions. At best, actively-controlled systems set the sampler's intake flow based upon measured average or running mean wind velocities, as given by a companion anemometer. In any case, the sampler's inlet flow velocity only approximates the actual wind velocity. For sampling the smaller size fractions within PM_{10}, the necessity of maintaining isokinetic flow is lessened (Davies, 1968; Rogers *et al.*, 1989). Commercially-available PM_{10} inlets are characterized with regard to their effectiveness in sampling different particle sizes in different wind velocities (Purdue, 1988). In order to meet the Federal Reference Method requirements, the inlets must provide a 10 ± 1 µm cutpoint over a range of windspeeds from 2-24 km/hr (Barnard *et al.*, 1988).

Table 3-1
Aerosol Sampling Instrumentation Used to Measure Suspended Particulate Mass Concentrations for Road Dust Studies

Instrument	Principle of Operation	Particle Size Cut	Reference
MRI Vertical Profiler	Isokinetic Flow with Stacked Filter Samplers	Total supended particulate (TSP) Fine Suspended particulate (≤ 2.5 µm)	Rosbury and Zimmer (1983)
Interagency Monitoring of Protectes Visual Environments (IMPROVE) samplers with Sierra Anderson Inlets (model 246b)	size selective inlet and controlled air flow the particles are collected on Teflon-membrane filters	10 µm aerodynamic diameter	Eldred *et al.* (1988) Flocchini *et al.* (1994)
Davis Rotating-drum unit for monitoring (DRUM) sampler	multi-stage inertial impactor, with sequential orifices the particles are collected on greased Mylar strips	≥ 10 µm 10-5 µm 5-2.5 µm 2.5-1.1 µm 1.1-0.07 µm ≤ 0.07 µm	Cahill *et al.* (1987) Flocchini *et al* (1994)
High-Volume Sampler	size selective inlet and controlled air flow, the particles are collected on filters	TSP Dependent upon size selective inlet	Dyck and Stukel (1976) Pinnick *et al.* (1985) Becker and Takle (1979) ETC (1981) Kinsey and Jirik (1982)
Low-Volume Sampler	size selective inlet and controlled air flow, the particles are collected on filters	TSP Dependent upon size selective inlet	Seton *et al.* (1983)
Cascade Impactor	fractionation of particle sizes by multi-stage impactors and controlled air flow	<30 -0.4 µm depending on the imactor stages	Roberts *et al.* (1975) Rosbury and Zimmer (1983) Becker and Takle (1976)
Stacked Filter Units (SFU)	size selective filter sampling train and controlled air flow	> 2.5 µm < 2.5 µm	Flocchini *et al.* (1994)

The collection of total suspended particulates (TSP) has usually been accomplished by the use of tower-mounted samplers which draw the sediment-laden air through an orifice and then extract the dust by trapping it on a filter medium. This type of system has been described by Midwest Research Institute (Bohn, 1982) and Rosbury and Zimmer (1983). Isokinetic sampling was attempted with both systems. The MRI system pre-set the flow velocity based upon the average wind velocity measured at the sampling site. The Rosbury and Zimmer (1983) sampler adjusted the nozzle intake velocity based on the ambient wind conditions. This system used a stacked-filter arrangement (Stevens and Dzubay, 1978; Cahill, 1979), giving two collected-particle-size fractions. The Rosbury and Zimmer (1983) sampler was designed to measure the mass of the size fractions <30 µm and <2.5 µm. Both of these tower-mounted systems relied on operators to change the their orientation in response to changes in wind direction. These two systems have been utilized to measure dust emissions from roads, in the TSP size fraction.

Nickling and Gillies (1993) describe a similar system, based on high-volume sampling and extraction of the TSP onto filters. However, their system is self-orienting with respect to changes in wind direction. Isokinetic sampling is approximated by pre-setting the flow velocity at the intake nozzle to equal the average wind speed at each collection height. The ambient wind speed can be monitored from companion anemometers and the flow velocity adjusted with flow meters. They did not attempt to fractionate the suspended sediment particulates according to size classes with their samplers. Nickling and Gillies (1993) used their system to measure dust fluxes created by wind erosion.

With the promulgation of PM_{10} standards in 1987, measurements of fugitive dust emissions in the U.S. have concentrated on quantifying the level of PM_{10}. The magnitude of the flux of these particles is related to the emission process and the surface conditions of the PM_{10} source. Recent studies of dust emissions from unpaved road surfaces have attempted to measure the concentrations of PM_{10} and smaller particles, to calculate emission factors, and to assess the effects of suppressant measures (Section 2.2). Unpaved road sources can be considered as line sources which emit particulates from a very confined area (Frankel, 1993). For this reason, it has been recognized that downwind-only sampling has an increased level of error because the collected samples incorporate any upwind particulates that were present before the wind crossed the road. More recent studies have incorporated upwind measures of the ambient atmospheric particulate loadings; these are subtracted from the measures made downwind of the road in order to accurately estimate the emissions of particulates from the road surface.

In a recent study, Flocchini *et al.* (1994) utilized two types of samplers to collect PM_{10} samples emitted from unpaved road surfaces in the San Joaquin Valley. Collection of PM_{10} for gravimetric analysis was done with IMPROVE samplers (Eldred *et al.*, 1988; Eldred, 1988; Eldred *et al.*, 1990), and the DRUM sampler (Cahill *et al.*, 1987; Raabe *et al.*, 1988) was used to measure the size distributions of the suspended particles. The IMPROVE sampler consisted of four independent filter modules and a common controller; each module was fitted with a PM_{10} sampler inlet head (Model 241 dichotomous sampler inlet, Graseby-Andersen, Atlanta, GA). The DRUM unit was a multi-stage inertial impactor which used sequential orifices to impact aerosols onto Mylar strips (Flocchini *et al.*, 1994). Additionally, Flocchini *et al.* (1994) used a vertical sampling system with stacked filter units (SFU, Cahill *et al.*, 1990); the size fractions sampled by the SFU are nominally 0 to 2.5 µm and 2.5 to 10 µm. These samplers were used to measure particle-mass-concentration-vs.-height relationships from 3 to 9 m.

Portable, battery-powered samplers have recently been introduced for PM_{10} monitoring, especially as a means for saturation sampling. Several studies have utilized the AIR METRICS® Minvol (Figure 3-1, Airmetrics, Inc., Springfield, OR) to measure ambient PM_{10} loadings (e.g., Parisi *et al.*, 1993; Pleasant, 1994). These samplers can be used to expose Teflon filter media, which is amenable to gravimetric, elemental, and ion analyses. Minvol samplers can easily be utilized in upwind-downwind monitoring strategies for assessing the dust emissions from road surfaces. More information concerning the selection criteria for this sampler is given in Section 3.6.5.

3.5.2 Modeling to Infer Emissions Rates from Particulate Measurements

Table 3-2 lists emission rate equations which have been used to estimate the flux of particulates from various surfaces, along with their required variable inputs and associated references. An important part of suppression effectiveness studies is the determination of the emission rate of particulates from the surface as a function of vehicle use. The assumptions used and the strengths and weaknesses of the models listed in Table 3-2 were evaluated and found to be for the most part lacking in rigour for the purposes of this study. Some of the critical weaknesses of the models, identified by their number assigned in Table 3-2, are:

- (1) Requires detailed knowledge of the atmospheric stability, downwind plume behavior and characterization of the dust emission height.
- (2) Assumes a linear decrease of mass concentration with height to determine the extent of the vertical height of the plume.
- (3) The physical basis of the model and its assumptions are poorly articulated, calculation of emissions is confusing and appears dimensionally inconsistent.

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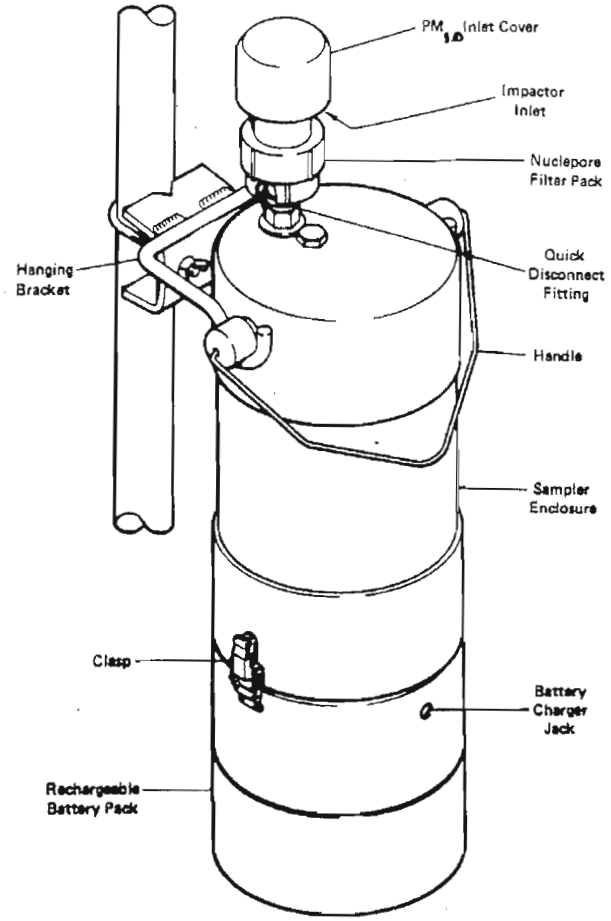

Figure 3.1 Diagram of the PM_{10} Portable Survey Sampler used in the San Joaquin Valley Dust Demonstration Study.

Table 3-2
Examples of Particulate Emission Rate Calculations and Their Input Variables

Emission Rate Equation	Input Variables	Reference
(1) $e = \frac{C \sin\phi \sqrt{2\pi}\sigma_z U t}{2N} \exp\left[-\frac{1}{2}\left(\frac{H}{\sigma_z}\right)^2\right]$	e = emission factor C = particulate concentration ϕ = angle between the wind direction and a line source σ_z = standard deviation in the verticle direction of the the plume concentration U = wind speed t = sampling period H = effective height of dust emission N = number of vehicle passes	Dyck and Smkel (1976)
(2) $E = \int_0^H \frac{M(h)}{a} dh$	E = emission rate M = net particulate mass collected by profiler sampler a = sampler intake area h = vertical distance of sampler above ground level H = vertical extent of the plume above ground level	Rosbury and Zimmer (1983)
(3) $X = \frac{VHC}{N} \times 3600 \frac{\text{sec}}{hr}$	X = emission rate per vehicle mg/km V = wind speed perpendicular to road H = box height (m) C = PM_{10} aerosol emission ($\mu g/m^3$) N = number of vehicles per hour	Flocchini *et al.* (1994)
(4) $Q_p = Q_t \times \frac{C_p}{C_t}$	Q_p = PM_{10} emission rate Q_t = measured tracer release rate C_p = downwind PM_{10} concentration C_t = downwind tracer concentration	Mitra *et al.* (1993)
(5) $F = \kappa P u_* n$	F = vertical particulate flux κ = von Karman constant (≈0.4) P = average slope of the concentration versus height gradient (≈-0.3) u_* = wind friction velocity n = particulate concentration	Nickling and Gillies (1989)
(6) $e = \frac{C_n Q_t}{A}$	e = particulate emission rate C_n = particulate concentration Q_t = wind tunnel flow rate A = exposed test area	Axetell and Cowherd (1984)

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Table 3-2 (continued)
Examples of Particulate Emission Rate Calculations and Their Input Variables

Emission Rate Equation	Input Variables	Reference
(7) $e = 0.61\left(\frac{s}{12}\right)\left(\frac{S}{48}\right)\left(\frac{W}{2.7}\right)^{0.7}\left(\frac{w}{4}\right)^{0.5}\left(\frac{365-p}{365}\right)$	e = PM_{10} emission factor (kg/VKT) s = silt content of road surface (%) S = mean vehicle speed (km/hr) W = mean vehicle weight (Mg) w = mean number of wheels p = number of days with ≥ 0.254 mm of precipitation	EPA (19xx)
(8) $Q = Q_0\ u^s$	Q = emission rate (g/ m sec) Q_0 = proportionality constant u = wind speed (m/sec) s = wind speed dependence parameter	Winges (1990)

- (4) Assumes the PM_{10} behaves in transport in the same fashion as the tracer gas.
- (5) Used to describe emission from a surface being actively eroded by wind, not by vehicles.
- (6) Used to describe emission from a surface being actively eroded by wind, not by vehicles.
- (7) Empirically derived function based upon a limited data set. Transference beyond its original intention is suspect.
- (8) Used to describe emission from a surface being actively eroded by wind, not by vehicles.

For the reasons cited above and for a perceived lack of rigour in modeling the physics of the dust emission process from unpaved roads, these models were not chosen for this study. Instead a model was developed (refer to Section 8) which utilizes observed point concentrations at a spatial resolution that is superior to previous studies. By measuring the vertical upwind and downwind mass concentrations to allow characterization of the plume, a better estimate of the emissions due to vehicle traffic can be calculated.

3.6 Conclusions

The measurement strategy for quantifying emissions and surface characterizations have been chosen such as to balance the effectiveness of the testing procedures, the required number of tests, and the expected signal to noise. The measurement program aims to disinter the expected relationships between vehicle travel, PM_{10} emissions, and the condition of the road and shoulder surface. The most widely variable measurements are expected in the surface characterization measurements where the changes in the variable being examined will be a function of test location, and temporal changes brought on by vehicle traffic and the influence of weather.

In this project multiple methods will be used to test the effectiveness of each suppressant. Variables, such as wind velocity and aggregate size distributions, will be measured due to their acknowledged importance in the erosion of sediment by natural winds. Variables that characterize the ability of the surface to resist mechanical breakdown and consequent PM_{10} suspension will also be monitored. Finally, upwind and downwind PM_{10} flux measurements will must be included in order to quantitatively connect the surface measurements, the suppressant choice, and the resulting airborne particulate mass concentrations. The methodologies chosen to characterize the important surface characteristics are reviewed below.

3.6.1 Suspendable Dust Loading

According to Cowherd *et al.* (1988) a minimum gross sample of 23 kg of loose surface material must be collected for each 3.8 km of road to obtain a representative sample of the loose surface material. The total sample should be collected from sampling strips 0.20 m wide and approximately 4.5 m long (half the road width) perpendicular to the road direction. Cowherd *et al.* (1988) recommend a distance between sampling strips of 1.6 km per 4.8 km of road. (These sample mass requirements and distances between sampling locations can be adjusted accordingly for the lengths (~ 800 m) of suppressant treated road used in this research project.)

3.6.2 Particle Sizing

To characterize the surface sediments from the unpaved roads and the changes through time it is suggested that wet sieving, the dry sieving technique of Cowherd *et al.* (1990) and the "soft-sieve" technique of Cowherd *et al.* (1990) be utilized in this study.

Samples should first be collected from the untreated roads to characterize the initial conditions and to note any significant textural differences in the road surface between the different test sections. Subsequent samples should be taken following application of the suppressant and then at the selected time intervals to examine how the surface characteristics change through time as a result of traffic movement and weathering. It will not be necessary to carry out wet sieving for each site visit. The characterization of the mineral grain particle size distribution should remain relatively constant through time. It should only change if the mineral grains experience significant comminution caused by the vehicular traffic. Natural weathering processes should not significantly contribute to mineral grain breakdown during the time frame of the study. However, natural weathering may affect the aggregate structure. Measuring the changes in the aggregate size distribution should give an indication of how well the suppressants act to reduce weathering related and mechanical breakdown of the road surface.

3.6.3 Strength of Surface Materials

It is suggested that the Toogood (1978) methodology (Section 3.3) be used to assess the structural stability of the road aggregates found within the different test and untreated sections. The aggregate stability will be related to the binding power of the suppressant and provide a measure of its resistance to mechanical breakdown.

For this project, the Proctor Penetrometer will be used to measure the compression strength of the road surface associated with application of the dust suppressants. The strength measurements obtained with these instruments are similar to the modulus of rupture test used by Gillette *et al.* (1982) to assess the crustal strength of desert soil surfaces which they related to emission potentials.

3.6.4 Additional Measurements: Surface Water Content, Wind Velocity and Temperature Profiles, Wind Direction

For this project, simple gravimetric measures of surface soil moisture should be adequate to determine how well moisture is maintained in the road surface as a function of surface treatment. Soil moisture measurements should be taken at each sampling period for both the treated and untreated road surface to assess the hygroscopic character of a surface treatment. This will not be as important for petroleum-based suppressants which will tend to reject water infiltration. Moisture content also affects the strength characteristics of the road bed.

Upwind velocity profiles and temperature and will be measured on a tower instrumented with four cup anemometers spaced logarithmically to 10 m. Two thermistors and wind vanes will also be placed on the tower to monitor atmospheric stability and to note the angle of approach to the road of the prevailing wind during each test period.

3.6.5 Suspended Dust Particle Flux Measurements

The methodology employed to measure the PM_{10} emission rates from the test surfaces will be a profile monitoring method enhanced by the placement of two overhead sampling positions to allow a more full characterization of the dust plume. The profile methodology offers the best approach to characterize the initial conditions of the background dust concentration profile as well as the immediate downwind profile. The characterization of the dust concentration profile with height has been poorly established in previous studies, but it offers insight into the physics of the release of PM_{10} near an eroding source. Many of the latest PM_{10} samplers available commercially may be adapted for dust control demonstration studies. However, their placement and the sampling strategy and the number of samples taken will all influence the quality of the results and conclusions. Due to their ease of placement on towers, robustness, and known sampling characteristics, the AIR METRICS Minvol portable $PM_{10}/PM_{2.5}$ sampler (Figure 3-1) was chosen for this project to measure PM_{10} emissions from the unpaved road and shoulder test sites. The Minvol portable sampler has been deployed in several previous projects, such as the Imperial Valley/Mexicali Cross Border PM_{10} Transport Study (Chow and Watson, 1995) and the San Joaquin Valley Integrated Monitoring Study, Winter 1995-1996 (IMS). This sampler utilizes a rechargeable battery pack to power a pump which draws ambient air through a single filter pack at a flow rate of 5 L/m. The aerosol size cutpoint is achieved by a single-stage impactor with a greased impaction plate; PM_{10} and $PM_{2.5}$ configurations are available.

The portable PM_{10} sampler is a relatively recent technological development. Early versions suffered some degradation of performance due to air leaks and problems with filter holders. The Minvol sampler configuration deployed in this Study benefits from improvements implemented during several recent air quality studies. These improvements include:

- daily inspection of impactor inlets, with cleaning and greasing if necessary;
- conduct of the entire filter handling process according to new procedures, including filter selection (Teflon), acceptance testing, pre-weighing, loading and field handling, and the use of improved filter holders; and
- extensive testing of all sampler components and programming prior to field deployment.

PM_{10} sampler data include uncertainties resulting from sources such as flow variations and mass determinations. Predictions of overall uncertainties based on these components usually underestimate the net uncertainty because not all component uncertainties are accurately assessed (Mathai *et al.*, 1990). A better indication of net uncertainty is obtained by collocating two or more identical samplers, and comparing their estimates of the mass concentrations of PM_{10} particulates obtained during simultaneous runs. Comparisons of Minvol samplers with other sampler types are also available; these data indicate whether or not the Minvol design includes some systematic defect, such as an inaccurate cutpoint.

Table 3-3 shows collocated sampler comparisons from three recent studies in which the improved version of the portable sampler was deployed. The comparisons are to the Sequential Filter Sampler (SFS, Chow, 1995), and a medium-volume flow sampler, in two cases. The SFS uses a commercial PM_{10} inlet, the Sierra-Andersen SA-254 (Graseby-Andersen, Atlanta, GA, detailed description in Chow, 1995) and collects samples for gravimetric analysis on 47mm Teflon filters. Table 3-3 presents three regression calculations along with the corresponding averages of the differences (X–Y) between collocated determinations (column 7) and collocated precisions, defined as the standard deviations of the X–Y differences (column 8). The PM_{10} concentration levels in these studies ranged from less than 10 $\mu g/m^3$ to greater than 180 $\mu g/m^3$. As has been noted by Chow and Watson (1995), these comparisons generally indicate that the portable samplers compare well with each other, and that portable and SFS samplers measure the same mass concentrations in side-by-side sampling. In all cases, the regression slopes are close to unity, and the correlation coefficients are greater than 0.9. The average differences are less than 2 $\mu g/m^3$ for all three comparisons, and in each case are less than their corresponding standard deviations, indicating the lack of systematic bias. The collocated precision of the portable-portable comparison is about 6 $\mu g/m^3$, which indicates that concentration differences less than 6 $\mu g/m^3$ are not resolvable. The comparisons to the SFS give similar results, indicating that there is no systematic

Table 3-3
Portable Sampler Comparisons

Study	Y	X	Regression Slope	Correlation Coefficient, r	N	Average Difference, X-Y, $\mu g/m^3$	Collocated Precision, $\mu g/m^3$
Las Vegas Valley [1]	Portable 1	Portable 2	0.91	0.93	24	1.9	5.9
Imperial Valley/ Mexicali [2]	Portable	SFS	1.05	0.98	62	0.16	8.5
IMS 95 (Corcoran) [3]	Portable	SFS	1.1	0.99	14	-1.8	6.1

References:

1. Chow, et al., 1995.

2. Chow and Watson, 1995.

3. Personal Communication, F. Divita, DRI.

difference between the portable and SFS samplers (i.e., the cutpoints of the two sampler types do not differ systematically according to these data). These recent assessments are consistent with the U.S EPA (1992) estimate, which states that the expected collocated precision of the Minvol sampler is ±15% or better. High filter blank loadings and/or variability would add to these uncertainty levels, but in general the blank data from portable samplers do not indicate any unusual loadings or variability.

3.6.6 Modeling Recommendations

The use of previous models to describe emissions from unpaved roads will be limited to a comparison of the model developed for this project and U.S. EPA's AP-42 model. Since this is the standard model used to infer emissions, this is a useful comparison to highlight potential inadequacies in the model for its use on the test sites. Section 8.2 also details how the Fugitive Dust Model (Winges, 1990) can be used to develop measures of uncertainty for the emission rates calculated with the proposed emission formula (Section 8.1).

4.0 TEST LOCATIONS

4.1 Test Site Criteria

This Demonstration Study requires field test sites which meet scientific and practical criteria. As in any precise micrometeorological study, the terrain must be unvarying and consistent enough in its configuration to satisfy the necessary assumptions of existing aerodynamic and aerosol physics models. The following five criteria were applied in the search for appropriate unpaved public road test sites.

4.1.1 Length

The test strip for each suppressant should be several hundred meters in length in order to allow measurements of PM_{10} suppressant effectiveness at the midpoint of each segment with minimal interference from track-in of material from adjoining test segments, although much shorter segments have been used (e.g., Rosbury and Zimmer, 1983; Muleski and Cowherd, 1987; Flocchini *et al.*, 1994). Hence, in order to test several suppressants and allow a control section, total road/shoulder lengths of a few km are desirable.

4.1.2 Direction

The prevailing wind direction in the San Joaquin Valley counties is north-south, modified by the steering due to the valley, so that the actual prevailing winds tend to be north-northwest to south-southeast. In order to estimate suspended PM_{10} particle emissions, and subtract off any contributions from upwind sources, sampling will be performed upwind and downwind of the test segment. Therefore, the road should be as perpendicular to this direction as possible; hence east-west roads are preferable to north-south candidates.

4.1.3 Topography

The PM_{10} particle measurements are designed to quantify the emissions from a given road test segment, as the particles are suspended by vehicles or wind erosion and are carried along with the ambient air flows. The accurate estimation of contributions from upwind sources requires that the wind and aerosol profiles reach equilibrium prior to arriving at the site. Therefore, flat terrain is highly preferable over hilly or cut-and-fill configurations, due to the need to conduct comparable measurements over the several test strips, and to attain uniform conditions and minimal modification of the airflow due to uneven surfaces. Sites immediately adjacent to sources are rejected.

4.1.4 Representativity

In a study with limited resources, choosing test sites which are representative of the many soil types and the varying climatic conditions of the San Joaquin Valley (SJV) counties

presents a poorly-defined and difficult challenge. Hundreds of soil types, covering the full spectrum of clays, loams, and sands, are found in the SJV. In addition, unpaved roads often incorporate additional material such as road aggregate. Additional emission variability is caused by climatic factors; average annual precipitation is roughly a factor of two greater for the northern SJV counties, compared to the southern locations.

4.1.5 Usage

Unpaved road and road shoulder test sites which are frequently traveled are most desirable, both to provide the best tests of the durability of the dust suppressants, and to avoid situations where the road is used only seasonally for agricultural activities.

4.2 Candidate Sites

The unpaved public road and road shoulder test site search began in early August, 1994. Contacts were then initiated with county road superintendents, commissioners, and maintenance supervisors in Merced, Madera, Fresno, Kings, Tulare, and Kern Counties. No public unpaved roads were offered in the western part of Kern County that is included in the SJVUAPCD. Possibilities in Madera and Tulare Counties were very limited. Several candidate unpaved roads were identified in Merced, Fresno, and Kings Counties. A field search for suitable unpaved road and shoulder test sites was subsequently conducted:

1. Candidates were selected based on the five criteria (Section 4.1) and county-provided information;

2. The candidate sites were visited, and the following information was obtained for each: measurements of length and width; samples of surface material; photos; description of bordering land usage; description of soil type based on available soil surveys.

Table 4-1 presents the candidate unpaved roads identified and visited in Merced, Fresno, and Kings Counties.

4.3 Selected Test Sites

The test site selection process involved discussions between Desert Research Institute, agricultural representatives, and the San Joaquin Valley Unified Air Pollution District. Tucson Road in Kings County, and Kamm Road in Fresno County, were eliminated after detailed consideration. Tucson Road's surface was deemed non-representative because it consists of layers of aggregate and local silt overlying old pavement. Kamm Road and nearby roads serve mainly to provide access to cotton fields; the adjacent cotton growers utilize these roads extensively on a year-round basis. The usage includes heavy vehicles

Table 4-1
Candidate Unpaved Roads

Unpaved Road Name	County	Length x Width	Surface Material	Pros	Cons
Quinley Ave.-John Saunders Rd.	Merced	4.6 mi by approx 20 ft	native soil, sparse aggregate		4 segments alternating N-S and E-W directions
Harmon Rd.	Merced	3.4 mi by 25 ft	aggregate		direction NNW by SSE
Santa Fe Rd. south of Highway 33	Merced	more than 3.8 mi by 25 ft	aggregate	longest unpaved road identified	direction NNW by SSE
Fields-Olson Rd.	Merced	approx. 3.5 mi by 25 ft	native soil, sparse aggregate	direction E-W	no traffic observed during site visit
Ohio Rd.	Fresno	4 mi by 37 ft	native soil		direction N-S, ag use only
Herndon Ave.	Fresno	approx 4 mi by 21 ft	native soil	direction E-W	ag use only; bridge out near midpoint
Ceriini Rd.	Fresno	approx 3 mi by 25 ft	native soil	direction E-W	ag use only: impassable when wet
Kamm Ave.	Fresno	approx 3 mi by 25 ft	native soil	direction E-W	appears to dead end with ag use only
Tucson Ave.	Kings	3.4 mi by 21 ft	aggregate and silt on top of formerly maintained roadbed	direction E-W	road was previously paved, then allowed to deteriorate

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which not only track in soil from the adjacent fields, but would also damage the suppressant treatments. Growers also water the road while the cotton plants are growing, in order to suppress dust which provides habitat for harmful insects. The amount of watering which growers apply would completely invalidate the evaluations of suppressant performance.

The remaining best available unpaved road test site is Fields Road, located in Merced County. The Merced County Road Superintendent, Mr. John Graves, gave the following information about the maintenance of Fields Road: the last time major work was done on the road was 18 years ago; small amounts of rock and aggregate have been applied since then; the road is graded twice a year, once after the rainy season ends, and once during the summer to help reduce dust emissions. Nothing else is done. The major uses of the road are by local ranchers, and for access to a golf course located to the northeast. Due to its proximity to Fields Road, the best available unpaved shoulder test site is Bellevue Road in Merced County, between Highway 59 and G Street. Table 4-2 summarizes the properties of Fields Road with regard to the selection criteria; Table 4-3 gives the same information for Bellevue Road. According to the Merced Area Soil Survey (United States Department of Agriculture, 1962), the soil types pertaining to the test locations are dominated by silty and sandy loams (mainly the Montpelier, Corning, Redding, Whitney, Rocklin, Yokohl, Ryer, and Pentz types).

Figure 4-1 shows the locations of the unpaved road and shoulders test sites in Merced County. Figure 4-2 shows Fields Road and its surroundings, and the locations of five 0.5 km test segments. Figure 4-3 shows the Bellevue Road unpaved shoulder test site. In order to establish precise coordinates for the data acquired in this study, all measurements at the Fields Road sites will be referenced to a single benchmark, the intersection of Fields Road and La Grange Highway; the benchmark for the unpaved shoulder sites is the intersection of Bellevue Road and Highway 59. The benchmark coordinates are as follows:

1. Fields Road/La Grange Highway: 37° 33.931′ N, 120° 25.556′ W

2. Bellevue Road/G Street: 37° 21.710′ N, 120° 28.220′ W

Landowner permissions were sought and obtained prior to the deployment of the towers on which the PM_{10} samplers and meteorological equipment are mounted adjacent to the Fields Road test segments.

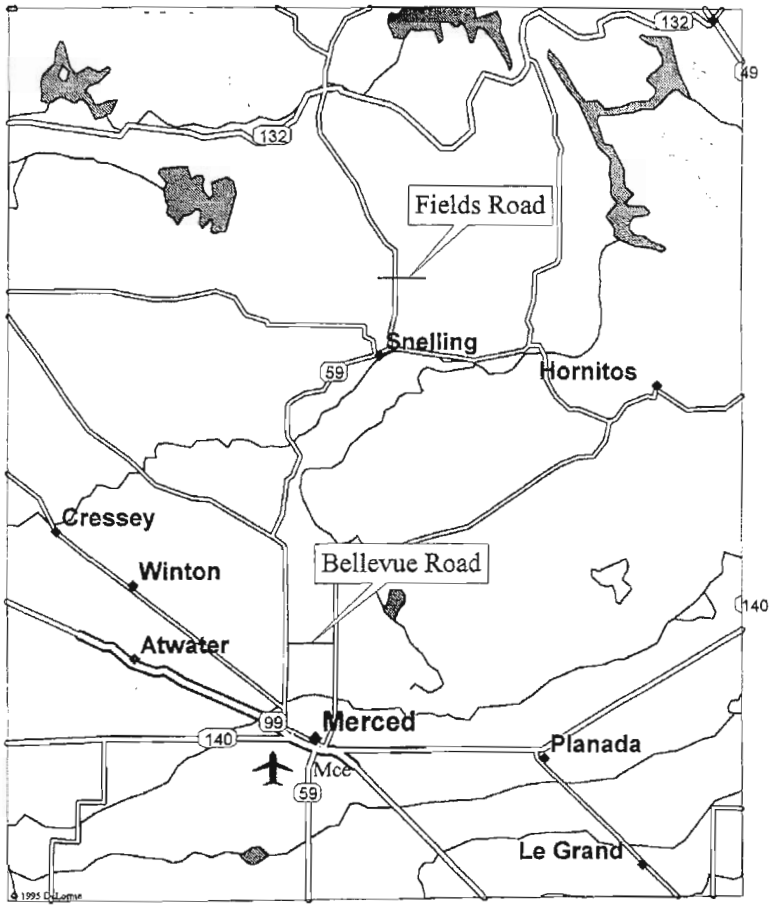

Figure 4-1 Merced County study sites.

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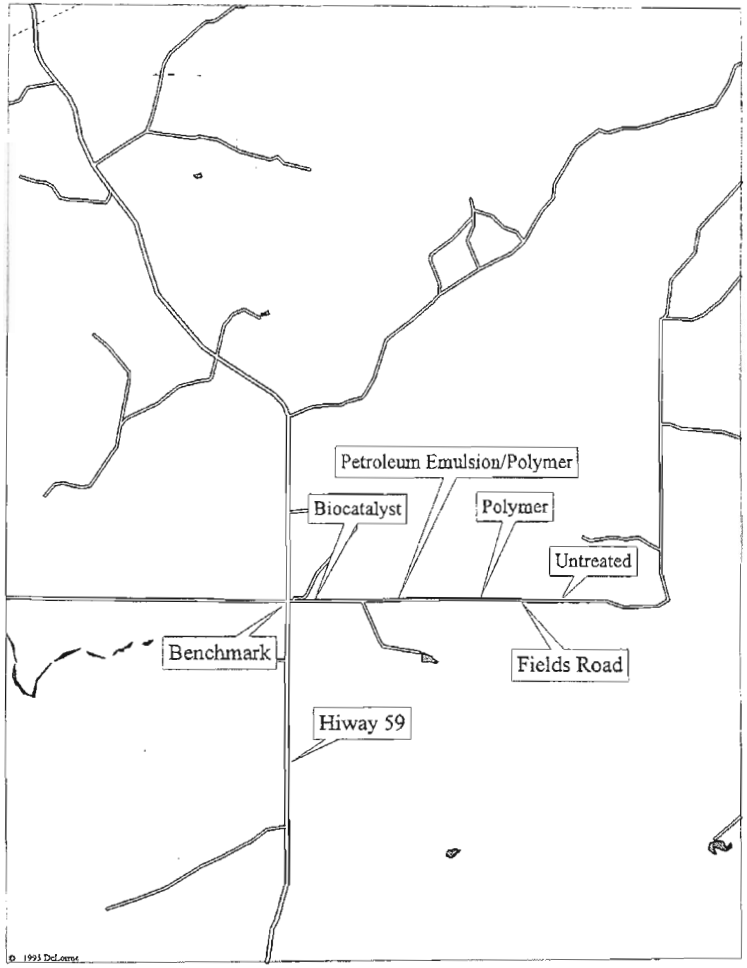

Figure 4-2 Fields Road study sites.

4-7

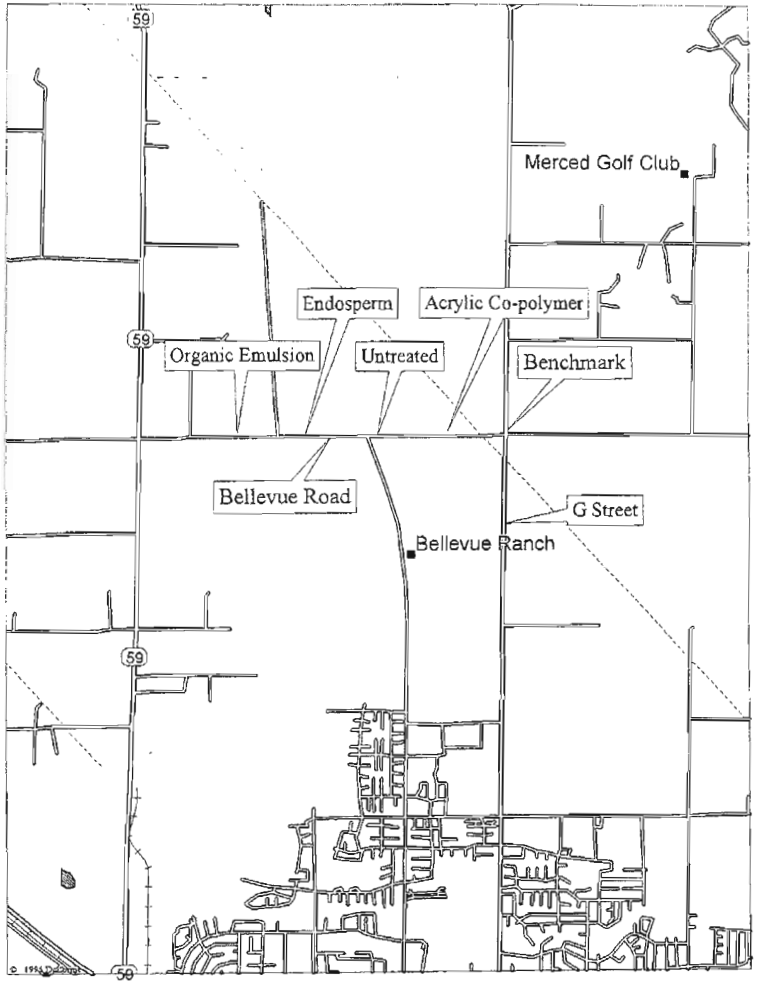

Figure 4-3 Bellevue Road study sites.

4-8

5.0 TEST PROCEDURE

Measured PM_{10} fluxes provide quantification of the emission rates of the treated and control sections (as pointed out by Rosbury and Zimmer, 1983, but derivation of true emission factors applicable over the entire range of environmental conditions is not possible unless all the relevant independent variables are tested). The strengths and weaknesses of previous demonstration studies were reviewed in Section 2, including their varying approaches to the estimation of particulate fluxes. The most critical objections to previous work include the following:

- vertical particulate concentration profiles were inferred based on assumptions concerning values near the ground, at heights above the measurement levels, and interpolated between the measurement levels;
- quantitative associations between surface characteristics and particulate fluxes were not derived, and combined with the suppressant/particulate flux relationships, providing a complete physical picture of the emission process.

This section describes the experiment design and its responses to these assumptions; the objectives of the discussion are:

- to outline the procedures for selecting and applying the test suppressants;
- to present the PM_{10} sampling methodology;
- to present the methodologies for acquiring data on road/shoulder surface properties, surface moisture and meteorology, and traffic characterization.

Data management, validation, quality assurance, and analysis will be discussed in later sections of this Study Plan.

5.1 Suppressant Choice and Application

Commercially-available dust suppression products are listed in Appendix A; Table A-1 was used as a bidder's mailing list, to which the Desert Research Institute addressed a Request for Proposal (RFP). The RFP invited suppressant manufacturers to submit competitive bids subject to terms and conditions set by the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) and the Desert Research Institute (DRI). Manufacturers were given the locations of the study sites and asked to scope coverage of test segments, either on Fields Road, or of unpaved shoulders on both sides of Bellevue Road in Merced County. Proposals were reviewed by DRI and initial recommendations were developed on the basis of: a) obtaining a representative variety of modern products which meet toxicity and VOC criteria; b) cost; and c) feasibility of logistics and

application method. DRI's recommendations were discussed with the SJVUAPCD and a final selection was made. The terms, conditions, and schedule were reviewed and confirmed with all successful respondents before acceptances and rejections were issued.

Surface preparation at both sites, beyond normal grading provided by the Merced County Department of Public Works, and suppressant application were the sole responsibility of the suppressant manufacturer. Test segments were assigned to each manufacturer, and suppressant application was be supervised by the DRI field manager. The chosen suppressant products and their assigned test segments are listed in Table 5-1.

5.2 PM_{10} Sampling and Analysis

The PM_{10} sampling plan involves upwind and downwind sampler configurations intended to eliminate the most objectionable assumptions associated with previous studies. This Demonstration Study utilizes the AIRMETRICS "Minvol" portable PM_{10} sampler described in Section 3.6.5 of this Study Plan.

5.2.1 Upwind Sampling

The sampling configuration is illustrated in Figure 5-1. Each test segment is equipped with an upwind and downwind sampler array located at its midpoint, in order to minimize the effects of suppressant material tracked in from adjoining test sections. The upwind samplers are deployed in order to measure PM_{10} transported into the section from upwind sources. Since the test roads and shoulders are chosen to be distant from any sources, the incoming upwind particle distributions may be assumed to have reached equilibrium. This allows the application of existing dust transport models (e.g., Lancaster and Nickling, 1993) in order to describe the variations of concentrations and particle sizes as a function of elevation.

Three PM_{10} samplers are mounted on a 10 m tower located approximately 1 m upwind of the road surface. These samplers measure the upwind concentration profiles, which are then compared to the theoretically-estimated profiles. The upwind tower data may be redundant with the theoretical estimates, extrapolated from the farthest-upwind sampler and based on the equilibrium assumption; however, they eliminate complete reliance on the theory, which would amplify the overall uncertainty of the flux measurement in cases when upwind PM_{10} concentrations are significant compared with the downwind values. Comparison of the tower data with equilibrium estimates will help to indicate whether or not emissions from the test road section are contaminating the upwind samplers during low wind speed conditions, indicating that the dust plume is spreading out on either side of the road. This arrangement allows sampling if the wind is blowing perpendicularly to the road, but in the direction opposite to the expected predominant wind direction.

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Table 5-1
Suppressants Applied in Demonstration Study

Test Segment	Segment Length	Suppressant
Fields Road 1	541 m	Biocatalyst
Fields Road 2	541 m	Polymer
Fields Road 3	541 m	Petroleum Emulsion with Polymer
Fields Road 4	541 m	Control
Bellevue Road Shoulders 1	746 m	Organic Emulsion
Bellevue Road Shoulders 2	606 m	Control
Bellevue Road Shoulders 3	782 m	Endosperm Hydrate
Bellevue Road Shoulders 4	750 m	Acrylic Co-polymer

5-3

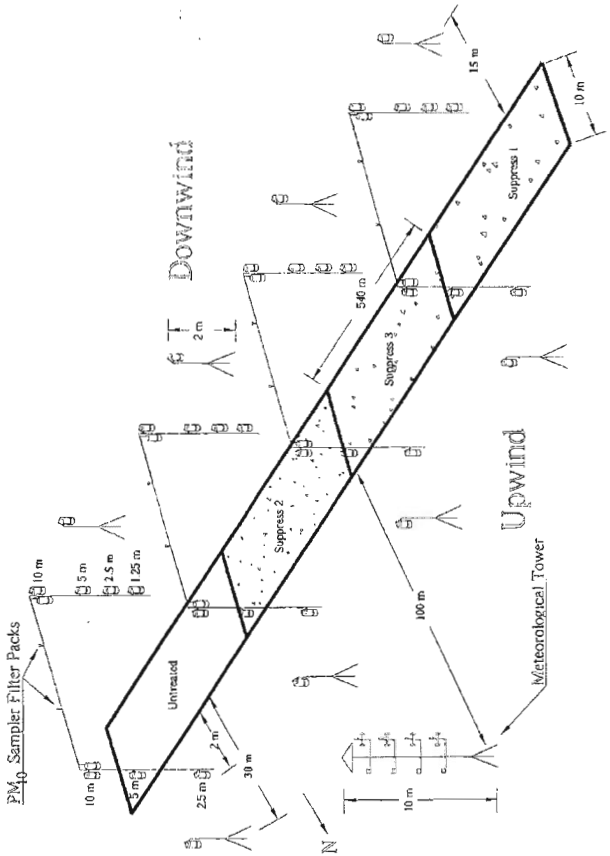

Figure 5-1 Unpaved road sampler array.

5-4

5.2.2 Overhead and Downwind Sampling

Downwind sampling presents a more difficult challenge than the upwind case, because for any manageable distance from the source, equilibrium of particulate properties as a function of height cannot be assumed. There is no basis for assuming that the top of the emitted plume is lower than 10 m for sampling locations close to the source, because, depending on atmospheric stability and the detailed turbulent air velocity field created by the passage of a vehicle (especially a non-aerodynamic vehicle such as a tractor-trailer combination), PM_{10} particles may be lofted above the road to heights greater than 10 m. Using sampler data taken at lower levels and extrapolating to the "top" of the plume is inaccurate because there is no clear physical relation on which to base the extrapolation.

The sampler configuration in Figure 5-1 utilizes portable PM_{10} samplers deployed over the top of the test section, on a ten-meter tower, and at the surface downwind, in order to obtain a more accurate estimation of the summed PM_{10} emissions. The available sampler inventory is deployed in a design intended to maximize the return of data from the most critical locations. The tower-mounted samplers are deployed with the same or improved spatial resolution, as compared to previous studies (Rosbury and Zimmer, 1983; Muleski and Cowherd, 1987). Additional overhead samplers are deployed to characterize plumes which have risen to heights greater than 10 m. The downwind surface sampler data are compared to the tower and overhead sampler data. The comparison of the measured and estimated downwind surface concentrations provides a consistency check on the data set. The net PM_{10} flux from the test section is obtained by subtracting the upwind-source profile from the downwind source profile, and combining the resulting mass concentration data with the wind speed profile. This analysis procedure is described in Section 8.

5.2.3 Sampling of Unpaved Shoulders

Unpaved shoulders of paved public roads are studied with a variation on the unpaved road methodology. The full complement of surface characterizations are performed. The PM_{10} measurement approach is conceptually similar to that of Fitz *et al.* (1992) in the evaluation of unpaved road dust suppressants in the Coachella Valley: upwind and downwind samplers at one height provide relative measures of suppressant performance. Dust emission rates are estimated but uncertainties are greater than for the unpaved road study, because of the assumptions involved.

For each suppressant-treated section of unpaved shoulder, one PM_{10} sampler is placed upwind to measure the background concentrations of PM_{10}. Two additional samplers are deployed on the downwind side of the road. The first sampler is located within the shoulder area, and the second sampler is located approximately 100 m from the first sampler on the same downwind side. All samplers are mounted on tripods at the

2 m level. The performance of the suppressants can be determined through comparison of the treated sections with the control section of unpaved shoulder and with each other.

Additional measurements at the unpaved shoulder sites assess the formation and extent of dust plumes by optical methods. Real-time video images of passing vehicles and their associated turbulent wake-generated dust plumes are recorded at each test segment. Estimations of relative vehicle speeds are determined from the video tape record. In addition, nephelometers are used to obtain light scattering (B_{scat}, Mm^{-1}) measurements; light is scattered by the dust particles in the plumes created at the test sites, in approximate proportion to dust particle mass concentrations. Three-dimensional wind field measurements are obtained with a portable sonic anemometer placed close to the road shoulder. The anemometer data (a) measure the time-dependent wind field caused by the passage of a vehicle, i.e., the vehicle's "wake signature"; (b) quantify the wind profile near the ground, thereby characterizing the aerodynamic forces available to suspend dust particles from the surface.

5.2.4 Frequency of PM_{10} Sampling

PM_{10} sampling will be conducted at the unpaved road and shoulder sites during three intensive studies lasting approximately five days each. The intensive studies are scheduled as follows: the first was conducted following suppressant application and the end of the rainy season, July 22-27, 1995; the second was conducted in the autumn, October 17-22, 1995; and the third was conducted in the summer, June 6-18, 1996. The daily PM_{10} measurement protocol specifies sampling periods for unpaved shoulders during the times of heaviest traffic volume, between the hours of 0800 to 1800; for the unpaved road sections sampling is from 0800 to 1400 with 96 vehicle passes during this interval.

5.3 Sampling and Characterization of Surface Material

Measurable surface properties which both affect dust emissions and are expected to be affected by suppressant application were discussed in Section 3. These properties are:

1. suspendable dust (silt) loading;
2. particle size distributions; and
3. surface strength.

The silt loading and size distribution measurement plans are combined owing to their close physical relationship.

5.3.1 Surface Silt Loadings and Size Distributions

Determining the surface sediment characteristics that influence the potential dust emissions involves two collection techniques. Both sweeping and vacuum techniques are used to collect the loose surface sediments on the road for subsequent analysis of the total silt content. The two techniques are compared by analyzing the relationships of their respective silt composition estimates to the measured dust emission rates.

The size distributions of surface particles and aggregates are determined from subsamples of the surface material collected by the sweep and the vacuuming techniques. Samples are taken from each test section, prior to suppressant application, and during monthly visits and each intensive study conducted after suppressant application. Each sample is split into three subsamples, and the following tests are carried out:

1. Sieving and pipette analysis to determine the grain size distribution and assess the texture of the road base material (method of Folk, 1980);

2. Soft sieve analysis (method of Cowherd, *et al.*, 1990) to assess the aggregate distribution of each test section;

3. Aggregate stability (method of Toogood, 1978).

The surface sampling strategy for collection of the loose surface material is adapted from the sampling procedure outlined in Cowherd *et al.* (1990). Sampling the loose surface material involves collecting the sediment at two sections within each test section. A sample of the sediment is removed by the vacuum and sweep method along a line approximately 0.3 m wide spanning the entire width of the road or both sides of the unpaved shoulders. If necessary, more areas are sampled to obtain sufficient masses of sediment for analysis. According to the sampling strategy of Cowherd *et al.* (1990), at least 6 kg of mass should be collected per 0.5 km of unpaved road. If the treated sections of unpaved road surface and unpaved shoulders are sufficiently sealed, with no appreciable amounts of loose surface sediment present, the sampling procedure follows the recommendations of Cowherd *et al.* (1990) for paved roads: sampling a strip 3 to 9 m wide provides sufficient sample sizes for analysis of the silt content.

The surface samples collected from the unpaved road shoulders are used to characterize the texture of the surface, the silt content, and the aggregate size distribution. The texture of the road material represents the grain size distribution of the mineral grains that comprise the road bed. The methodology for determining the grain size distribution is the ASTM standard for wet sieving (ASTM, 1990a) to determine the distribution of particle sizes in the gravel and sand range. Pipette analysis is used to determine the percentage of silt and clay (ASTM, 1990b). The texture of the earth materials that form the road surface should change only marginally over the length of road used in this research. However, any changes in soil texture over the length of the

test section are documented, as suppressant effectiveness is influenced by this property (Rosbury and Zimmer, 1983).

Detailed procedures for obtaining surface silt content and particle size distributions are given in Tables B-1 and B-2 of Appendix B.

5.3.2 Surface Strength Characteristics

Several methodologies are used to assess the strength of the surfaces created by application of the dust suppressants and its relationship with dust emissions. If the road surface exhibits significant crusting of fine material, a Proctor Penetrometer is used to measure the strength of the material. The Penetrometer measures an unconfined compression strength for the unpaved road and shoulder surface. It applies a vertical force, normal to the surface in kg/m^2 that may cause the surface crust to fail. It is designed to measure the penetration resistance of fine-grained soils and achieves ASTM standards (for test D-1558). The Proctor Penetrometer offers a much wide range of strength measurements because of its use of interchangeable penetration probes with different surface areas. It is similar to, but not an exact replication of, the modulus of rupture test used by Gillette *et al.* (1982) to assess the strength of desert soil crusts which they related to wind erosion susceptibility. Its strongest advantage is that it provides an *in situ* measure of strength.

The strength measurements are carried out based on a transect sampling arrangement with measurements of the surface strength characteristics taken 0.25 m apart across the width of the road and shoulder. This provides approximately 40 measurements per transect covering the:

1. shoulder region;

2. tire track regions;

3. center line area.

The Cowherd *et al.* (1990) "soft sieve" technique is employed to characterize aggregate stability by monitoring changes in the aggregate size distribution through time. A relative measure of the stability of the aggregates on the surface is determined by the methodology of Toogood (1978). In this procedure approximately 5 g of air-dried samples of aggregates 1 to 2 mm in diameter are sieved vigorously on a 1 mm sieve for one minute. The sample is re-weighed and then sieved vigorously for an additional four minutes. The weight of sample remaining after five minutes, expressed as a percentage of the weight remaining after one minute, is used to indicate the stability of the dry aggregates (Toogood, 1978).

The tests for silt content, aggregate size distribution, and surface strength characteristics are repeated during monthly site visits and during intensive studies, allowing for monitoring of the degradation of the surface treatments through time.

5.4 Measurements of Surface Moisture Content and Meteorological Variables

The moisture content of the road surface is determined gravimetrically and expressed as a percent moisture content. The methodology for determining percent moisture content is based on standard ASTM methods, and is detailed in Table B-3 of Appendix B.

A 10 m meteorological tower is located at a distance of 50 m upwind of the Fields Road test site. The meteorological information includes:

1. wind speed at four heights (1.25, 2.5, 5, 10 m)
2. wind direction at 2 heights (1.25, 10 m)

Wind speed is measured with cup type anemometers. Average wind speeds are calculated based upon two-second readings averaged over fifteen minutes. The average wind speed for the test period is an ensemble average of the fifteen-minute averages.

5.5 Vehicle Traffic Counting and Control

The traffic counters utilized in this study are electromechanical devices triggered by pneumatic pulses generated when two wheels in succession pass over rubber tubing (K-Hill Model GMH, K-Hill Signal Co., Uhrichsville, OH). The count accumulates cumulatively until reset by an operator. The counter modules are housed in secure, locked aluminum boxes which will be chained to power poles. The traffic counters will remain in place for the duration of the project, and will be checked and reset each time that the surface characteristics are measured. The cumulative traffic count will indicate the net exposure of a given suppressant to vehicular travel.

5.5.1 Unpaved Road (Fields Road)

Fields Road is a Merced County, CA, public road on which the traffic flow cannot be controlled. However, due to the lack of information concerning vehicular use of this road and in order to obtain reasonable dust flux measurements, an active vehicle management approach will be implemented using a DRI vehicle moving at controlled time intervals and speeds. For this study, two different test vehicle speeds are used which are representative of common traffic speeds on unpaved roads. It will not be possible to make definitive statements as to the relationship between vehicle speed and PM_{10} emissions outside of this range.

The control vehicle is operated at a slow speed of 40 km/hr and a fast speed of 60 km/hr. A set number of vehicle passes, 96, are made for each PM_{10} sampling interval. Any other traffic passing through the test sites is monitored by traffic counters to determine total vehicle kilometers traveled per section. The two vehicle speeds are altered from test period to test period starting on the first sampling day with 40 km/hr. By alternating the two speeds between two successive sampling periods the effects of speed on dust emissions from each of the test surfaces is evaluated. The effect of vehicular traffic on the aging characteristics of the suppressants and the resultant effects on dust production from each test surface are monitored in this approach.

5.5.2 Unpaved Shoulders

Traffic flow at the unpaved shoulder sites is monitored but not regulated. Vehicle kilometers traveled past each test section are determined from traffic counters located at each end of the test section.

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6.0 QUALITY ASSURANCE

Every measurement consists of a value, a precision, an accuracy, and a validity (Mueller *et al.*, 1979; Mueller and Watson, 1981; Hidy, 1985). Quality control (QC) and quality auditing establish the precision, accuracy, and validity of measured values (Watson *et al.*, 1989b). Quality assurance (QA) integrates quality control and quality auditing to determine these four attributes for each environmental measurement. Table 6-1 summarizes the quantitative QA and QC activities which are needed for the measurements in this study. These tests include calibration, performance testing, and auditing activities.

Quality assurance is a project management responsibility which integrates quality control, quality auditing, measurement method validation, and sample validation into the measurement process. The results of quality assurance are data values with specified precisions, accuracies, and validities. Quality auditing is performed by personnel who are independent of those performing the procedures. A separate quality assurance manager performs these audits.

Quality control is intended to prevent, identify, correct, and define the consequences of difficulties which might affect the precision, accuracy, and/or validity of the measurements. The QC activities include the following: 1) creating and modifying standard operating procedures (SOPs) to be followed during ambient and source sampling, analysis, and data processing; 2) equipment overhaul, repair, acceptance testing, and spare parts; 3) operator training, supervision and support; 4) periodic calibrations and performance tests, which include blank and replicate analyses; and 5) quality auditing.

6.1 Standard Operating Procedures

Standard Operating Procedures (SOPs) codify the actions which are taken to implement a measurement process over a specified time period. State-of-the-art scientific information is incorporated into the SOP with each revision. SOPs include the following elements:

- A brief summary of the measurement method, its principles of operation, its expected accuracy and precision, and the assumptions which must be met for it to be valid;
- A list of materials, equipment, reagents, and suppliers. Specifications are given for each expendable item and its storage location;
- Designation of the individual to be responsible for each part of the procedure;

Table 6-1
Performance Audit Observables for the San Joaquin Valley
Unpaved Road/Shoulders Dust Demonstration Study

Observable	Measurement Device	Performance Test Frequency	Performance Standard	Calibration Frequency	Calibration Standard	Audit Frequency	Audit Standard	Primary Standard
PM_{10}								
PM_{10} sampler flow	Minivol PM_{10} filter sampler	Daily	Calibrated rotameter	At beginning and end of field program or when performance tests out of spec	Calibrated rotameter	Each Intensive	Mass flow meter	Certified Roots Meter
PM_{10} Mass	Cahn 31 Electronicro-balance	1/10 samples	NIST Class M Standard Weights	At beginning of weighing session	NIST Class M Standard Weights	Every 4 months	NIST Class M Standard Weights	NIST Class M Standard Weights
Meteorology								
Wind Speed	Anemometer	Weekly	Visually check anemometer rotation, compare observed wind speed and recorded value	none	Synchronous motor	Each intensive	Constant rpm motor	Yearly factory re-certification
Wind Direction	Vane	Weekly	Visually check wind vane direction and compare to recorded value	At start of each field measurement intensive	Alignment with true north determined by magnetic compass	Each Intensive	Alignment with true north determined by magnetic compass	Magnetic compass

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Table 6-1 (continued)
Performance Audit Observables for the San Joaquin Valley
Unpaved Road/Shoulders Dust Demonstration Study

Observable	Measurement Device	Performance Test Frequency	Performance Standard	Calibration Frequency	Calibration Standard	Audit Frequency	Audit Standard	Primary Standard
Temperature	Thermistor	At start of each field intensive	Thermometer	Monthly	NIST-traceable thermometer	Each Intensive	Sling Psychrometer with NIST-traceable thermometer	NIST-traceable thermometer
Relative Humidity	Lithium Chloride strip	At start of each field intensive	Psychrometer	Semiannually	Assman Psychrometer	Each Intensive	Sling Psychrometer with NIST-traceable thermometer	NIST-traceable thermometer
Surface Characteristics								
Surface silt loadings	Sieve							
Aggregate size distributions	Sieve and pipette							
Compression strength	Penetrometer							
Shear strength	Torvane device							
Moisture content	Laboratory balance							

6-3

Table 6-1 (continued)
Performance Audit Observables for the San Joaquin Valley
Unpaved Road/Shoulders Dust Demonstration Study

Observable	Measurement Device	Performance Test Frequency	Performance Standard	Calibration Frequency	Calibration Standard	Audit Frequency	Audit Standard	Primary Standard
Other								
Traffic count	K-Hill Model GMH electro-mechanical counter	During each field intensive	Visually check traffic count and compare to record					

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- A general traceability path, the designation of primary standards or reference materials, tolerances for transfer standards, and a schedule for transfer standard verification;
- Start-up, routine, and shut-down operating procedures and an abbreviated checklist;
- Copies of data forms with examples of filled out forms;
- Routine maintenance schedules, maintenance procedures, and troubleshooting tips;
- Internal calibration and performance testing procedures and schedules;
- External performance auditing schedules; and
- References to relevant literature and related standard operating procedures.

An operations manual for this study contains the procedures specified in Table 6-2. The surface characterization procedures and DRI SOP documents are appended.

6.2 Performance Tests

Table 6-1 shows the frequency and nature of calibrations, performance tests, and quality audit results. Results from field tests are reported immediately, and corrections are implemented when these exceed pre-set levels.

6.3 Quality Audits

The DRI Quality Assurance Laboratory will conduct independent audits of the measurement processes. Performance audits establish whether the predetermined specifications are being achieved in practice. The performance audit challenges the measurement/analysis system with a known standard sample which is traceable to a primary standard.

The field performance audits will test sampler flow rates, wind speed and direction, temperature, and relative humidity. Sampler flow rates are verified by measuring the flow using a mass flow meter traceable to a National Institute of Standards and Technology (NIST) spirometer. The percent difference between the audit flow and the nominal flow is calculated. Elapsed times are verified using an audit stopwatch. Audits of the meteorological monitors are based upon U.S. EPA Prevention of Significant

Table 6-2
Standard Operating Procedures Applied in the San Joaquin Valley Unpaved Road/Shoulder Dust Demonstration Study

Observable/Method	DRI Standard Operating Procedure (SOP) Title
PM_{10} Sampling with Minivol (also applies to $PM_{2.5}$ sampling)	Portable PM_{10} Survey Sampler Field Operations (DRI SOP #1-210.1)
PM_{10} Mass	Gravimetric Analysis Procedures (DRI SOP #2-102.1)
Nephelometry	$PM_{2.5}$/Open Air Integrating Nephelometer Field Operations (DRI SOP #1-023.1)
Wind Speed and Direction	Operation and Maintenance of Meteorological Instruments (DRI SOP #1-312.3)
Data Validation, PM_{10}	Field, Mass, and Chemical Data Processing and Data Validation for Aerosol/Gas data (DRI SOP # 3-005.1)
Data Validation, Meteorological	Meteorological and Continuous Gaseous Data Processing and Data Validation (DRI SOP # 3-006.1)

Deterioration (PSD) standards. Wind direction sensor errors shall not exceed 5 degrees from established targets. Sensor bearings are checked by conducting the horizontal rotation test. Wind speed sensors are checked with a synchronous motor. Maximum error shall not exceed 2.5 m/s. Wind speed sensor bearings are verified with a torque wheel. An Assmann psychrometer is used to test temperature and relative humidity sensors. Temperature sensor errors shall not exceed 1.0 °C. The relative humidity standard is stated as a dewpoint value. The dewpoint error shall not exceed 1.5 °C.

Field performance tests and audit procedures have not been established for the surface strength and size distribution measurements.

6.4 Precision Estimation Methods

Both collocated and propagated precisions are calculated following the methods of Mathai *et al.* (1990) and Watson *et al.* (1989b), respectively. The propagated precisions are derived from replicate measurements and performance tests. The surface strength and size distribution measurements will be assigned collocated precisions based on data from closely-spaced replicate measurements.

7.0 DATA MANAGEMENT AND VALIDATION

Data from the field, laboratory, and various quality control activities must be unified prior to input to an ambient measurement data base. Values must be accepted, corrected, flagged as suspect, or removed from this data base after they are evaluated against validation criteria. Precisions associated with each value must be calculated from performance test data.

7.1 Data Base Requirements

Data processing consists of six tasks:

- **Recording.** The relevant information obtained at the time an operation is performed is registered on a data sheet, data logger, or other transfer medium.
- **Input.** The data are transferred from the recording medium into computer-accessible files.
- **Merging.** Data from various files pertaining to an individual sample or sampling day are retrieved and related to each other.
- **Calculations.** Data items are combined in mathematical expressions to yield a desired result. These include pollutant concentrations, accuracies, and precisions.
- **Data Validation.** Data are verified against earlier or redundant recordings, with calibration and operating records, and with each other.
- **Output.** Data are arranged into desired formats for input to data interpretation and modeling software.

Continuous data, surface characterization data, and filter substrate data will be acquired in this project. The data base management system needs to fulfill the following requirements:

- Quantitative and descriptive information must be included;
- Data from a number of sources must be merged in an efficient and cost-effective manner; and
- Input data required by models should be easily accessible directly from the data base.

7.2 Variable Names, Units, and Coordinates

Each measurement constitutes one record in a data base file. PM_{10} particle mass concentrations, surface characterization data, nephelometer data, and meteorological data are assembled in four separate files. The coordinates of each measurement are given in meters, referred to the site benchmark coordinates (specified in Section 4); coordinates are included in the site code because measurement locations are invariant during the Demonstration Study. The fields in each measurement record include code name, site code, value, start time, end time, and flag.

7.3 Data Validation

Data validation is the most important function of data processing. Sample validation consists of procedures which identify deviations from measurement assumptions and procedures. Three levels of validation are applied which will result in the assignment of a rating to each measurement: 1) valid; 2) valid but suspect; or 3) invalid. Level I sample validation takes place in the field or in the laboratory and consists of the following: 1) flagging samples when significant deviations from measurement assumptions have occurred; 2) verifying computer file entries against data sheets; 3) eliminating values for measurements which are known to be invalid because of instrument malfunctions; 4) replacement of data from a backup data acquisition system in the event of failure of the primary system; and 5) adjustment of measurement values of quantifiable calibration or interference biases.

Level II sample validation takes place after data from various measurement methods have been assembled in the master data base. Level II applies consistency tests based on known physical relationships between variables to the assembled data. Level II validation will involve examining spatial patterns and temporal records (time series) of the data. Outliers will be scrutinized for non-physical characteristics.

Level III sample validation is part of the data interpretation process. The first assumption upon finding a measurement which is inconsistent with physical expectations is that the unusual value is due to a measurement error. If, upon tracing the path of the measurement, nothing unusual is found, the value can be assumed to be a valid result of an environmental cause. Unusual values are identified during the data interpretation process as the following: 1) extreme values; 2) values which would normally track the values of other variables in a time series; and 3) values for observables which would normally follow a qualitatively predictable spatial or temporal pattern.

All data validation actions at each level are recorded in a data validation summary which accompanies the data base. Data base records contain flags to identify the level of validation which they have received at any point in their existence.

7.4 Continuous Data Processing

Continuous hourly average data are acquired for wind speed, wind direction, temperature, and relative humidity at the meteorological towers for the intensive study periods.

The site documentation is reviewed for completeness, network performance, and compliance with standard operating procedures. Strip charts and data logger hardcopy records are inspected to identify periods of timing problems or field sensor malfunctions. The computerized data files are edited to remove extraneous characters which may have entered during data transfer.

Validation criteria for continuous data include:

- Equipment operated within specifications and according to standard operating procedures. Instruments must be calibrated prior to operation, at pre-set intervals, and when performance test results exceed pre-set tolerances.
- Data are bracketed by calibrations or by at least one performance of zero/span check.
- The calibration transfer standards used for calibration and performance tests have been verified against primary standards before and after use in the measurement program.
- Averages are invalid when valid data are acquired for less than 75% of the averaging period (e.g., 15 minutes).

Continuous data which satisfy these criteria are considered valid. Those which do not satisfy these criteria are considered invalid. If any of the information necessary to make the above evaluations is not available, the data are designated suspect until further review, comparison, and investigation show them to be valid or invalid at a higher validation level.

When data have a known quantifiable bias, they are adjusted when the following conditions are met: 1) the bias has a single identifiable cause; 2) there is a clearly defined beginning and ending time for the bias; 3) the data to be adjusted otherwise meet all data validation criteria; and 4) values to which the bias applies exceed the lower quantifiable limit of the instrument.

The validation summary for continuous data includes the following: 1) data recovery statistics; 2) identification of exceptional events; and 3) precision estimates for air quality data.

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7.5 Surface Test Data Processing

Surface characteristic data processing and validation require the following: 1) assignment of ID codes to variable names and test locations; 2) field data recording of the IDs and their corresponding sampling sites, sampling dates, sampling times, and deviations from normal sampling procedures; 3) laboratory instrument recording of analytical outputs; 4) Level I data validation, flagging, and editing of these individual data files; 5) merging field and laboratory data for sample sets; 6) Level II data validation, editing, flagging, and re-analysis; 7) calculation of statistical parameters and precisions; and 8) formatting and reporting of calculated statistical parameters, precisions, and data validation activities.

Level II validation for the particle size distribution measurements can be judged on criteria similar to the PM_{10} filter measurements in that the sum of mass for the individual size classes should be less than or equal to the gravimetric mass of the initial sample weight before the size segregating technique is applied. This validation procedure can be used for the sieving analysis used to characterize the mineral grain particle size and the aggregate size distributions (section 5.3.1). This data validation procedure is also applied to the percent silt content measurements obtained from the sweep and vacuum techniques.

7.6 Filter Substrate Data Processing

Aerosol data processing and validation requires the following: 1) assignment of ID codes to substrates; 2) field data recording of the IDs and their corresponding sampling sites, sampling dates, sampling times, sampling durations, sample flow rates, and deviations from normal sampling procedures; 3) laboratory instrument recording of analytical outputs; 4) Level I data validation, flagging, and editing of these individual data files; 5) merging field and laboratory data for sample sets; 6) Level II data validation, editing, flagging, and re-analysis; 7) calculation of ambient concentrations and precisions; and 8) formatting and reporting of concentrations, precisions, and data validation activities. A data base management system which performs these functions was created for the California Acid Deposition Monitoring Program (Watson *et al.*, 1990). This software is adapted for use in this project.

Field data are entered into computerized data forms. All substrate IDs are bar codes, and these are entered with a scanner rather than being typed. The screen forms have limits which do not allow entry of values which lie outside of a certain range. Every data item which is entered is verified by the data processing supervisor against the original data sheet.

A data base structure which contains fields for all mass concentrations and their uncertainties is formed. Each record contains sample IDs, sample volumes, sample times, and sampling sites, and sampling dates are integrated into this structure from the field file. All other fields contain the missing-data default value. The laboratory chain-of-custody data base records the disposition of each sample and this data base can be consulted to determine the fate of missing values in the master data base. This independent tracking is needed to prevent sample IDs from being mixed up.

The laboratory microbalance is linked to an IBM-PC compatible computer, and mass data are recorded in XBase (*.dbf) or ASCII text files. Barcode readers are used to enter each filter ID for an analysis run. All data are keyed to sample ID codes, and data base programs associate records in the laboratory files with data in the master file. These programs also replace the defaults in the master data file with the laboratory values. Separate flags are entered at the time of analysis to indicate that a sample is an ambient sample, a field blank, a laboratory blank, a replicate, a re-run, a performance test standard, or an audit standard. These flags are used to separate these quality control values from the individual data bases to generate quality control charts and precision estimates.

When all data for a record have been assembled, FoxPro programs perform the Level II data validation comparisons. The portable sampler filters cannot exhibit a negative change in mass after exposure, and upwind concentrations should usually be less than downwind, except when wind velocities are low and there is significant upwind drift caused by vehicle-created wakes. Statistical summaries, scatterplots, and time series plots of selected species concentrations are produced to identify outliers for investigation and potential re-run. A data validation summary is maintained in the character field associated with each record to provide a traceability trail for all data adjustments, replacements, or deletions.

When all sample concentration data have been assembled, the data base program creates another data base of ambient measurements. Propagated precision and filter blank subtraction calculations are made at this stage. The field and laboratory data validation flags are assigned as part of the data validation process. Data validation summaries accompany this final data base.

8.0 DATA ANALYSIS

8.1 Descriptive and Statistical Analyses

The data obtained in this Demonstration Study are processed according to the procedures described in Section 7. The unpaved surfaces are characterized by the measurements presented in Section 3; these are surface characteristics which control the availability of PM_{10} and help to explain the measured emission rates. The PM_{10} data are used to compute mass fluxes and total emission rates as a function of suppressant type, vehicle usage, and aging time (0 to 9 months).

8.1.1 PM_{10} Emission Rate Analyses

Descriptive analyses pertaining to PM_{10} concentrations and emission rates include statistical summary tables presenting averages, standard deviations, minima, and maxima. Spatial plots show the average PM_{10} concentrations for each test segment as a function of sampler height and distance from the source. Temporal plots are time series of emission rates and of average concentrations at constant locations (height and distance). These displays indicate the effectiveness of given suppressants, and how it varies over time.

8.1.1.1 Unpaved Road Upwind PM_{10} Profile Analyses

PM_{10} sampler #1 is located 20 m upwind of the road or shoulder surface at an elevation of 3m (Section 5). This point concentration ($\mu g/m^3$) is:

$$C = \frac{m}{Qt} \tag{8-1}$$

where: C = concentration ($\mu g/m^3$)
m = particulate sample mass (μg)
Q = sampler flow rate (m^3/s)
t = duration of sampling (s)

The concentration at any height is (Goosens, 1985):

$$C_1 = C_2\left(\frac{z_1}{z_2}\right)^{-\beta} \tag{8-2}$$

where: C_1 is the measured concentration ($\mu g/m^3$) at the height z_1 (m)
C_2 is the predicted concentration ($\mu g/m^3$) at the height z_2 (m)
β characterizes the decrease in concentration with height

The value of β is a function of the sedimentation velocity and the wind friction velocity. Equation 8-2 is derived as follows. At any particular height z:

$$F = C\,v_d \tag{8-3}$$

where: F = downward directed vertical flux of particles at height z
C = concentration of dust at height z
v_d = velocity of deposition

The upward vertical flux is:

$$F' = -K_A \frac{dC}{dz} \tag{8-4}$$

where: K_A = coefficient of exchange for aerosols.

At equilibrium, $F = F'$:

$$Cv_d = -K_A \frac{dC}{dz} \tag{8-5}$$

For neutral atmospheric conditions:

$$K_m = \kappa\, u_* z \tag{8-6}$$

where: K_m is the eddy diffusivity
κ is von Karmans constant (≈ 0.4)
u_* is friction velocity

The inertia of small particles can be neglected compared with the velocity fluctuations of the air. For this case, $K_m = K_A$ and:

$$K_A = \kappa\, u_* z \tag{8-7}$$

can be assumed.

From this, Equation 8-5 becomes:

$$Cv_d = -\kappa u_* z \frac{dC}{dz} \tag{8-8}$$

The solution of this differential equation is:

$$C_1 = C_2\left(\frac{z_1}{z_2}\right)^{-\frac{v_d}{\kappa u_*}} \quad (8\text{-}9)$$

The value of the exponent β in Equation 8.2 is:

$$\beta = \frac{v_d}{\kappa u_*} \quad (8\text{-}10)$$

According to Chamberlain (1967), the deposition velocity v_d (Equation 8-3) depends on the friction velocity u_*. However, at sufficiently low values of u_*, v_d approaches the terminal fall velocity u_∞ (Gregory, 1961). For neutral conditions:

$$\beta = \frac{v_\infty}{\kappa u_*} \quad (8\text{-}11)$$

Equations 8-10 and 8-11 show that the exponent β depends on atmospheric conditions and particle size. For non-neutral conditions the value of β can be determined using a stability correction term (Goosens, 1985). During one intensive field monitoring period upwind PM_{10} concentration profiles will be measured to provide an empirically derived measure of β for comparison with the theoretical value. The average friction velocity (u_*, m/s) is calculated from a least squares regression that fits the wind data to the Prandtl-von Karman equation (Bergeron and Abrahams, 1992). The regional u_* determines the range of particle sizes carried in suspension. If the ratio v_d / u_* is < 0.1, the particles will remain suspended in the air (Gillette, 1977). From the point concentration measured upwind of the road, the concentration profile with height is estimated from Equation 8-2. The friction velocity is determined from the wind velocity profile obtained from the on-site meteorological tower (Figure 5-1) using standard boundary layer theory (e.g. Nickling and Gillies, 1993). Assuming that the cut-point of the particle sizes collected by the sampler is ≤ 10 μm aerodynamic diameter (v_d = 0.003 m/s [Davies, 1966]) the measured concentration (C_1) and friction velocity can be used to calculate the concentrations at any height above and below the sampling height using Equation 8-2. Subtraction of the upwind concentration profile from the measured concentrations at each of the samplers in the array gives the PM_{10} concentrations attributable to road emissions.

8.1.1.2 Unpaved Road Downwind PM_{10} Profile Analyses

The net flux measurement at the midpoint of the suppressant test section is multiplied by the length of the section (541 m for Fields Road) to derive the total flux. The downwind PM_{10} concentration profile is divided into four bins, each represented by

an average PM_{10} concentration. The flux of particles produced by the vehicles during the sampling period is:

$$F = \sum C_i V_i h_i L \quad (8\text{-}12)$$

where F = the flux of PM_{10} (μg/s)
C_i = average bin concentration (i=1 to 4) (μg/m^3)
V_i = the average wind velocity perpendicular to the control section (m/s)
h_i = bin width (m)
L = 541 m

F, the total flux of PM_{10} particles, multiplied by the duration of the test, gives the net value of PM_{10} mass emitted from the road surface during the test period. This value is converted to a flux per unit vehicle kilometer traveled.

With low ambient wind speeds, the plume will rise over the top of the downwind tower and impact one or both of the two samplers suspended on the overhead cable. Without taking this mass contribution into account, the total flux of particles would be underestimated. The calculated regional friction velocity (u_*, m/s) approximates the vertical wind velocity component. The relationship between friction velocity and the vertical flux of dust particles has been demonstrated theoretically (Gillette and Passi, 1988) and also has been measured experimentally in the atmosphere (Gillette, 1977; Nickling and Gillies, 1993).

Elevated concentrations may be measured on the upwind side as a result of vehicle wakes. If the ratio of v_d/u_* is <0.1, the particles will remain in suspension (Gillette, 1977). Given a v_d of 0.003 m/s for a 10 μm sized particle, the regional friction velocity must be above 0.03 m/s for the particles to remain in suspension. Except under absolute calm, this ratio is usually <0.1. After the dissipation of the vehicle eddies, the suspended particles are transported back past both towers and are therefore sampled.

8.1.1.3 Unpaved Road Emission Rates: Summary

The upwind background PM_{10} flux is given by the flux per unit area integrated over the upwind side of the box:

$$Fu = \int_0^{10y} C_u(z) V_N L dz \quad (8\text{-}13)$$

where $C_u(z)$ is the upwind concentration profile (Equation 8.9), V_N is the average wind speed perpendicular to the road, L is the test segment length (541 m), and z is the vertical coordinate. The integrated "exposure" due to upwind sources is then:

$$E_u = F_u T_r, \quad (8\text{-}14)$$

where T_s is the sampling time interval (six hours). E_u is the total PM_{10} mass which enters the calculation box from upwind sources in the sampling interval.

The PM_{10} flux emitted from the box is:

$$Fe = \sum_{1}^{6} C_i V_N h_i L \qquad (8\text{-}15)$$

The integrated PM_{10} mass which is generated within the box is E_{tot}:

$$E_{tot} = [F_e - F_u] T_s \qquad (8\text{-}16)$$

8.1.1.4 Unpaved Shoulder Emission Rates

PM_{10} emission rates due to vehicular traffic on the paved road adjacent to the unpaved shoulder test segments are calculated based on the following assumptions:

1. The upwind PM_{10} profile is estimated based on the single-level measurement, as discussed in Section 8.1.1; and

2. The downwind PM_{10} profile is estimated by assuming its slope and the height of the plume, based on simple dispersion modeling and/or measured downwind profile slopes and heights, derived from similar meteorological conditions at the unpaved road sites.

The calculation of the net PM_{10} "exposures" for each of the shoulder test sections follows the form of Equation 8-16, except that in both the upwind and downwind cases, the implied flux integration is over an assumed form of the vertical profile, and there is no contribution from the top of the control box to be integrated. There are significant uncertainties implicit in the two listed assumptions; however, these are similar for each test section, allowing relative comparisons.

The dust plume concentration and extent data obtained with the nephelometer and video systems provide relative measures of the effectiveness of suppressants, compared with each other and the untreated control. Different vehicle types and their wake signatures are related to the measured plume concentrations and extents. From this information, the effectiveness of the suppressants can be judged with respect to their ability to increase the resistance of surface dust to aerodynamic forces; furthermore, approximate relations of dust emissions to vehicle type and speed are derived.

8.1.1.5 Uncertainties in Emission Rates

Uncertainties are estimated as propagated values based on those of the quantities input to the calculations and as replicate (i.e., measurement of the same observable with

identical environmental conditions) uncertainties. The replicate approach is usually more realistic, because propagated uncertainties usually do not incorporate all sources of variation. Cases of unusually similar ambient conditions (wind, temperature, humidity) will be examined to see if the apparently comparable measurements result in plausible replicate uncertainty estimates, but the analytical approach will not be based on this expectation. Collocated PM_{10} survey sampler data will be utilized in order to determine the uncertainty appropriate to the mass concentration determinations; previous research indicates that the collocated precision is in the 5-10 $\mu g/m^3$ range (Section 3).

8.1.2 Particle Size Analyses

The characteristics of the particle size distribution for both the mineral grain constituents and the aggregates that comprise the road surface are to be determined by the sieving procedures described in Section 5.3 and Appendix A. The particle size distribution data are presented as cumulative curves with the abscissa plotted as the log of the particle diameter (mm) and the ordinate as the cumulative percent of mass. Measures of central tendency including the mean, skewness, and kurtosis, are calculated using the method of moments (Folk, 1980). The uncertainty is established by calculating the difference between the starting weight and the weight obtained by summation of the mass from each of the individual size classes which is expressed as a percent error term for the distribution.

The size distributions of aggregates in soil samples can be quantified by statistical parameters, the geometric mean and geometric standard deviation. According to Zobeck (1991), the relationship between the logarithm of the aggregate diameter and the amount of aggregates that size and smaller are log-normally distributed for most soils. Assuming that the aggregate size distribution of the road surface follows a log-normal distribution, these measures can be applied to characterize their distribution. The geometric mean diameter and geometric standard deviation parameters of the log-normally distributed populations correspond to the mean and standard deviations, respectively, of normally distributed populations. The geometric mean and standard deviation are found by plotting the logarithm of the aggregate diameter versus the cumulative amount of aggregates, on a mass basis, passing a sieve at that size. The geometric mean diameter is the diameter at the 50 percent passing value. Using replicate samples of the collected aggregates and applying t-tests to test the difference in the geometric mean particle size diameter, it will be possible to determine if this characteristic of the surface is significantly different between the test surfaces and also if this characteristic changes significantly through time. Time series plots of the size distribution data will provide one measure of the effects of aging on suppressants.

8.1.3 Silt Content Analyses

Percent silt content per unit area of the unpaved road surface and unpaved shoulder at the test sites will be determined from the surface samples collected by sweep and vacuum techniques. The percent silt from the samples will be determined from the

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sieving procedure outlined in Section 5.3.1. Percent silt is a standard measure of silt content that is used in emission prediction equations such as the U.S. EPA's AP-42 model (Cowherd *et al.*, 1990). The silt content data can also be presented as a mass per unit area of road surface. Differences between the silt content of the test surfaces can be presented graphically as bar charts showing the ratio of the percent silt (particles ≤ 75 μm) content to the percent of particle sizes greater than the silt size class per unit area. Sample means for surface silt content can be calculated from replicate samples taken from each test surface and the difference between the means can be tested for significance with a t-test. A measure of the error for the percent silt determination can be obtained from the difference in the mass of the initial sample and the sum of the mass of the two segregated size fractions divided by the initial mass and expressed as a percent.

8.1.4 Surface Strength Characteristics Analyses

The unconfined compression strength for the unpaved road and unpaved shoulder test surfaces will be determined using the techniques outlined in Section 5.3.2. For each series of measurements that correspond to the monthly site visits and the intensive monitoring period, approximately 108 surface strength measurements will be taken for each unpaved road test section and 72 for each section of unpaved shoulder. From these individual measurements, the mean surface strength (unconfined compression strength) and its associated standard deviation can be calculated. To illustrate any changes in these characteristics, the data can be plotted as the change in mean strength as a function of time, or more appropriately, as a function of vehicle kilometers traveled. The effects of vehicle travel on the surface characteristics are most likely more important than weathering processes. To assess the differences in surface strength characteristics, the mean strength of the surfaces can be compared with a difference of means test using either a Z-test or t-test depending on the final sample number. A comparison of means of the surface strength between the different suppressant applications and through time or kilometers of vehicle travel will provide an important indicator of how the suppressant binds the loose particles to prevent their mobilization as well as the suppressant's ability to resist breakdown through time.

8.1.5 Aggregate Stability Index Analyses

The measure of aggregate stability outlined in Section 5.3.2 provides another measure of strength or resistance of the surface to comminution processes that will potentially liberate PM_{10}-sized particles, making them available for entrainment and ejection into the atmosphere. During each site visit, samples will be collected and the aggregate stability index determined. The aggregate stability index data can be presented in the same manner as the surface strength data with the mean and standard deviation of aggregate stability index calculated for each test surface. Changes in the stability index can be presented as a series of plots which show the aggregate stability measured through time for a specific suppressant application as well as differences between surface treatments. Quantification of the differences in this surface characteristic will provide an

important indicator of how well the suppressant creates surface conditions that resist breakdown resulting from vehicular traffic and potentially mitigating the liberation of PM_{10} under active vehicle traffic flows.

8.1.6 Moisture Content Analyses

The moisture content of selected surface samples from each of the test surfaces is determined gravimetrically (Section 5.4) to ascertain whether the average moisture content of one test surface is significantly different from another during the same test period and also between test periods. Significantly different mean surface moisture contents are indicated by difference of means tests. The percent moisture content measurements are used to partition the data into comparable classes. Comparisons of the mean surface moisture contents under the same ambient environmental conditions indicate how well the different suppressants retain or hygroscopically attract moisture in road or shoulder surfaces.

8.1.7 Light Scattering (Nephelometer) Data

The light scattering caused by fugitive dust emissions from the unpaved shoulder test segments is measured by nephelometers set up at specific locations. Simultaneous video camera records will be examined to associate the intensity and duration of the light scattering signals with: 1) the type of suppressant (or control) applied to the adjacent test area; 2) the estimated speed of the passing vehicle; and 3) the vehicle size and shape (e.g., high-profile truck). Comparisons are made as a function of suppressant type and aging time. The dust emissions due to passenger cars and to various types of trucks will be compared, testing the concept that the turbulence due to high-profile vehicles is more effective in terms of causing dust emissions. Concurrently, the shoulder surfaces will be analyzed and inspected in order to determine whether certain activities (e.g., car traffic on the shoulder) replenish the dust reservoir.

8.1.8 Statistical Difference Tests

The above analytical approaches for assessing the differences in the measured variables used to describe and explain the calculated emission rates of PM_{10} have proposed the use of the parametric t-test for determining if the mean of two samples of a measured variable are different. The use of this test is proposed on the assumption that the data will meet the necessary requirements for application of a parametric test. The important criteria for applying the t-test are that: 1) the data are normally distributed, and 2) the standard deviations of the background populations of the two samples are equal. If, upon examination, the data fails to meet these criteria, it will be necessary to use non-parametric tests such as the Mann-Whitney U test which requires no assumptions be made about the character of the distribution of the populations. This test is used to decide whether a difference in the mean of two independent samples is statistically significant (i.e., the samples come from different populations). According to Hammond

and McCullagh (1978), the Mann-Whitney U test has nearly 95% of the power of a t-test when applied to data that conforms to t-test requirements.

8.2 Modeling

Emission rates (kg PM_{10} per vehicle-km) are a function of surface characteristics including those presented in Section 2, together with vehicle usage factors. The AP-42 equation (Section 2.2.7) is an empirical model used to predict emissions rates based on surface (percent silt content, precipitation) and vehicle usage (speed, weight, number of tires) factors. In this Study, AP-42 modeling is extended to include the full range of surface characterizations obtained in this study. Emissions rate dependencies on suspendable dust loadings, dust particle and aggregate size distributions, surface strength, and vehicular factors will be determined and compared to the empirical functions and parameters of AP-42. The forms of AP-42 functions will be examined to see if they fit the data gained in this Study, with either the existing or new parameters. New empirical functions of the additional surface data will be tested.

Fugitive dust models (FDM, e.g., Winges, 1990) predict downwind PM_{10} concentrations based on emission rates and downwind transport, deposition, and diffusion. Fugitive dust modeling is applied in both the forward and backward modes; backward modeling will utilize measured downwind concentrations from the downwind PM_{10} samplers. The emission rates which bring the model values into agreement with the measurements will be compared to the emission rates based on the calculation box approach. Uncertainties will be propagated through both calculations. Significant discrepancies will be utilized as a diagnostic which may indicate error in either the model or the calculation box approach. Agreement between the two approaches supports the forward use of the FDM as a predictor of downwind PM_{10} concentrations at greater distances. Forward-mode propagated uncertainty will be compared to average and elevated fugitive dust PM_{10} concentration levels to evaluate its potential significance.

8.3 Summary

The data analysis effort will provide the following products:

- Descriptive analyses of the PM_{10} mass concentrations and emission rates, including summary tables and spatial and temporal plots;
- Descriptive analyses of the road and shoulder surface properties (silt content/suspendable dust, particle and aggregate size distributions, strength) including silt content bar and time series plots, size distributions, geometric mean diameter and surface strength time-series plots;

- Interpretation of the time-dependent surface measurements in terms of the processes, such as vehicular usage patterns, which act to alter size distributions or surface strengths;
- Critical discussions of the descriptive analyses, supported by statistical difference tests, in which the findings are developed regarding the relative effectiveness of suppressant products, and the effects of aging upon them;
- Interpretation of the emission rate determinations by empirical modeling analogous to AP-42; additional independent variables will be utilized, and comparison made to the original AP-42 calculation; discrepancies will be analyzed in order to recommend an improved empirical approach; and
- Backward- and forward-mode fugitive dust modeling, respectively, will be utilized in order to compare emission rate estimates to the measured values, and to evaluate the uncertainties inherent to the forward-mode application.

9.0 APPLICABILITY OF CONTROLS

The findings of this Demonstration Study will include both practical experience with a range of suppressant products, and improved estimates of emission rates and their dependences on surface properties and vehicular usage. These findings will be applied during the process of developing the State Implementation Plan (SIP). In addition to improved PM_{10} emission rate and factor estimates, the findings are relevant to practical applicability issues. Examples of applicability issues are addressed in this section.

9.1 Practicality

The hands-on experience obtained during the study will allow evaluation of the practicality of applying the different stabilizing methods, especially with respect to frequency and co-occurrence with other road maintenance activities. The range of suppressant products applied in this study includes those requiring simple topical spraying, and those for which scarifying is recommended. Some products are amenable to spraying, while others are solid material. The application requirements of some products may better match routine county road maintenance procedures than would be the case for other products. The experience resulting from this study will lead to better understanding of the trade-offs between the technical requirements of the application method, the necessary frequencies of application, overall cost, and time-dependent suppressant effectiveness.

9.2 Costs

The costs of the tested suppressants have been determined, including various options for application methods; these will be compared. This experience is necessary before realistic costing can be obtained through inquiries alone, because of the number of variables involved. For example, most product manufacturers would prefer to apply their material on a scarified surface, while normal county maintenance includes only grading. Therefore costing must include or exclude scarifying. The demonstration study experience has resulted in a knowledge base which will expedite the costing of additional suppressant products, and whether or not a given type of routine county maintenance results in any savings.

9.3 Priorities

The prioritization of public unpaved roads/shoulders for dust suppressant application is a function of practicality, cost, and population impact. The improved empirical modeling expected from this study will lead to better estimates of emission rate dependencies on soil type and vehicular usage, factors which vary from one location to another and affect these judgments.

9.4 Environmental Effects

All suppressants applied in this study have met State of California and San Joaquin Valley Unified Air Pollution Control District criteria. Increased understanding of the complete range of suppressant compositions and of application requirements has resulted. Despite formal agency approvals, applications of other products in other locations is likely to elicit objections unless environmental issues are addressed prior to application. This Demonstration Study provides a basis for planning an effective approach to environmental issues.

9.5 Pilot Studies

Small-scale, long-term pilot studies can be designed to determine the long-term effects of suppressants on PM_{10} concentrations. The most cost-effective approach would be based on the empirical relationships established between road/shoulder surface properties and PM_{10} emission rates. The relationships established and verified in this Demonstration Study lend support to the estimation of dust emissions based on surface properties and vehicular usage patterns, but re-verification involving the deployment of PM_{10} samplers should be included for new locations with different soil characteristics.

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10.0 MANAGEMENT, COSTS, AND SCHEDULE

10.1 Project Structure

Principal Investigators:	Dr. John Watson and Dr. Judith Chow
Field Sampling:	Dr. John Gillies
Field Sampling Subcontractor:	Metrotech, Inc.
Quality Assurance:	Mr. Richard Egami and Dr. Jitu Shah
Data Analysis:	Dr. John Gillies and Dr. Fred Rogers
Operational liaison at the San Joaquin Valley Unified Air Pollution Control District:	Mr. Rodney Langston, PM_{10} Planner

10.2 Schedules for Suppressant Applications, Surface Characterizations, and PM_{10} Intensive Studies

10.2.1 Suppressant Application

Test suppressants 1,2, and 3 were applied on Fields Road and suppressants A, B, and C were applied to unpaved shoulder sections on Bellevue Road during the period July 13-18, 1995. Test suppressant 4 was applied on Fields Road on November 18, 1995.

10.2.2 Intensive Studies

PM_{10} intensive studies were conducted immediately following suppressant application (July 22-27, 1995), in autumn (October 17-22, 1995), and in the following summer (June 6-18, 1996).

10.2.3 Surface Characterizations

Surface characterization measurements were conducted at the unpaved road and shoulder test sites on July 21-22, September 21-22; October 21-22, and December 27-28, 1995, and March 21-22, 1996.

11.0 REFERENCES

Allen, J. R. L. (1985). *Principles of Physical Sedimentology*, Allen and Unwin, London, 272 p.

American Society for Testing and Materials (1990a). Standard test method for amount of material in soils finer that No.200. In *Annual Book of ASTM Standards*. Document D1140, American Society for Testing and Materials, Philadelphia, PA, 193-194.

American Society for Testing and Materials (1990b). Standard test method for particle-size analysis of soils. In *Annual Book of ASTM Standards*. Document D422, American Society for Testing and Materials, Philadelphia, PA, 94-100.

Anderson, A.E., R.L. Gealer, R.C. McCune and J.W. Sprys (1973). Asbestos Emissions from Brake Dynamometer Tests., Document # SAE 7305-49. Society of Automotive Engineers, Warrendale, MI.

Anderson, R.S, M. Sorensen and B.B. Willetts (1990).A review of recent progress in our understanding of aeolian sediment transport. *Research Report No. 213*, Dept. of Theoretical Statistics, Institute of Mathematics, University of Aarhus, Denmark.

Anspaugh, L.R., J.H. Shinn, P.L. Phelps and N.C. Kennedy (1975). Resuspension and Redistribution of Plutonium in Soils. *Hlth. Phys.* **29**, 571-582.

Axetell, K. and J. Zell (1977). Control of Reentrained Dust from Paved Streets., Document # EPA-907/9-77-007. U.S. Environmental Protection Agency, Region VII, Kansas City, MO.

Axetell, K. and C. Cowherd (1984). *Improved Emission Factors for Fugitive Dust from Western Coal Mines*. EPA-600/7-84-048, NTIS PB84-17082.

Bagnold, R.A. (1937). The Transport of Sand by Wind . *Geog. J.*, **89**, 409-438.

Bagnold, R.A. (1941). *The Physics of Blown Sand and Desert Dunes*. Methuen, London, pp. 1-241.

Barnard, W.R., G.J. Stensland and D.F. Gatz (1988). Development of Emission Factors from Unpaved Roads: Implications of the New PM_{10} Regulations. In *Transactions, PM_{10}: Implementations of Standards*, C.V. Mathai and D.H. Stonefield, eds. APCA/EPA, San Francisco, CA, pp. 326-335.

Attachment to Submission BO118 (Raymond Carlson, J.G. Boswell Company (Atty. for), Griswold, LaSalle, Cobb, Dowd & Gin LLP (GLCDG), October 13, 2011) - Carlson_Letter_Attachments.pdf - Continued

Barone, J.B., L.L. Ashbaugh, B.H. Kusko and T.A. Cahill (1981). The Effect of Owens Dry Lake on Air Quality in the Owens Valley with Implications for the Mono Lake Area. *ACS Symposium Series, No. 167, Atmospheric Aerosol: Source/Air Quality Relationships*, **18**, p. 327.

Beggs, T.W. (1985). User's Guide: Fugitive Dust Control Demonstration Studies. Prepared for Environmental Protection Agency, Cincinnati, OH, by JACA Corp, Fort Washington, PA.

Belly, P.Y. (1964). Sand movement by wind. *U. S. Army Coastal Eng. Res. Center Tech. Mem.* 1, 1-38.

Bergeron, N.E. and Abrahams, A.D.(1992). Estimating Shear Velocity and Roughness Length from Velocity Profiles. *Water Resources Research* **28** (8): 2155-2158.

Bisal, F. and J. Hsieh (1966). Influence of Moisture on Erodibility of Soil by Wind. *Soil Sci. Soc. Am. J.*, **102**, 143-146.

Bohn, J. (1982). Inhalable Particulate Emissions from Vehicles Traveling on Paved Roads. *Third Symposium on the Transfer and Utilization of Particulate Control Technology* Vol. 4 *Atypical Applications*, 344-352

Bradford, J.M. and R.B. Grosman (1982). In-situ Measurement of Near-Surface Soil Strength by the Fall-Cone Device. *Soil Sci. Soc. Am. J.* **46**, 685-688.

Cahill, T.A., (1979). *Ambient Aerosol Sampling with Stacked Filter Units*. Federal Highway Admisistration, Office of Research and Development, Washington D.C., FHWA-RD-78-178.

Cahill, T.A., P.J. Feeney and R.A. Eldred (1987). Size-Time Composition Profile of Aerosols Using the DRUM Sampler. *Nuclear Instruments and Methods in Phys. Res.*, **B22**, p. 344.

Cahill, T.A., R.A. Eldred, P.J. Feeney, P.J. Beveridge, L.K. Wilkinson (1990) The stacked filter unit revisited. In *Transactions, Visibility and Fine Particles*, C.V. Mathai (ed.), Air and Waste Management Association, Estes Park, CO, 213-222.

California Air Resources Board (1991). *Emission Inventory 1989*. CAlifornia Air resources Board, Technical Support Division, Emission Inventory Branch, Sacremento, CA.

Chamberlain, A.C. (1967). Transport of Lycopodium Spores and Other Small Particles to Rough Surfaces. *Proc. of the Royal Society of London, Ser. A*: 45-70.

Chepil, W.S.(1942). Measurement of Wind Erosiveness by Dry Sieving Procedure. *Sci. Agr.* **23**, 154-160.

Chepil, W.S. (1951). An air elutriator for determining the dry aggregate soil structure in relation to erodibility by wind. *Soil Science* 71 (3), 197-207.

Chepil, W.S. (1952). Improved rotary sieve for measuring state and stability of dry soil structure. *Soil Sci. Amer. Proc.* 16, 113-117.

Chepil, W.S. (1956). Influence of Moisture on Erodibility of Soil by Wind. *Soil Sci. Soc. Proc.*, **20**, 288-292.

Chepil, W.S. and F. Bisal (1943). A Rotary Sieve Method for Determining the Size Distribution of Soil Clods. *Soil Sci.* **56**, 95-100.

Chepil, W.S. and N.P. Woodruff (1957). Sedimentary characteristics of dust storms: II. Visibility and dust concentrations. *Amer. J. Sci.* 255, 104-114.

Chepil, W.S. and N.P. Woodruff (1963). The Physics of Wind Erosion and Its Control. *Advances in Agronomy.*, Academic Press, New York, N. Y., **15**, 211-299.

Chow, J.C., (1995). Measurement Methods to Determine Compliance with Ambient Air Quality Standards for Suspended Particles. *J. Air Waste Manage. Assoc.* **45**, 320-382.

Chow, J.C. and J.G. Watson (1992). Fugitive Emissions Add to Air Pollution. *Environ. Protection*, 3(5), 26-31.

Chow, J.C. and J.G. Watson (1995). *Imperial Valley/Mexicali Cross Border PM10 Transport Study*. Final Report, DRI Document. 8623.1f1, prepared for U.S. Environmental Protection Agency, Region IX, San Francisco, CA, by Desert Research Institute, Reno, NV.

Chow, J.C., J.G. Watson, R.T. Egami, C.A. Frazier, Z. Lu, A. Goodrich and A. Bird (1990). Evaluation of regenerative-air vacuum street sweeping on geological contributions to PM_{10}. *J. Air Waste Manage. Assoc.* 40, 1134-1142.

Attachment to Submission BO118 (Raymond Carlson, J.G. Boswell Company (Atty. for), Griswold, LaSalle, Cobb, Dowd & Gin LLP (GLCDG), October 13, 2011) - Carlson_Letter_Attachments.pdf - Continued

Chow, J.C., J.G. Watson, L.W. Richards, D.L. Haase, C. McDade, D. L. Dietrich, D. Moon and C. Sloane (1991). *The 1989-90 Phoenix PM_{10} Study Volume II: Source Apportionment*. Final Report, DRI Document. 8931.6f1, prepared for Arizona Department of Environmental Quality, Phoenix, AZ, by Desert Research Institute, Reno, NV.

Chow, J.C., J.G. Watson, D. Lowenthal, P. Solomon, K. Magliano, S. Ziman and L.W. Richards (1992). PM_{10} Source Apportionment in California's San Joaquin Valley. *Atmos. Environ.*, **26**(18), 3335-3354.

Chow, J.C., J.G. Watson, D.M. Ono and C.V. Mathai (1993). PM_{10} Standards and Nontraditional Particulate Source Controls: A Summary of the A&WMA/EPA International Specialty Conference. *J. Air Waste Manage. Assoc.*, **43**, 74-84.

Chow, J.C., J.G. Watson, J.E. Houck, L.C. Pritchett, C.F. Rogers, C.A. Frazier, R.T. Egami and B.M. Ball (1994). A Laboratory Resuspension Chamber to Measure Fugitive Dust Size Distributions and Chemical Compositions. *Atmos. Environ.*, **28** (21), 3463-3381.

Chow, J.C., J.G. Watson, R. T. Egami, and F. Divita, Jr. (1995). *The Las Vegas Valley PM_{10} Study*. Draft Program Plan, DRI Document. 4309.1D3, prepared for Clark County Department of Comprehensive Planning, Las Vegas, NV, by Desert Research Institute, Reno, NV.

Clark County Health District APCD (1981). 1980 Annual Report on Status of Air Pollution control in the Las Vegas Valley. Clark County Health District, Air Pollution Control Division, Las Vegas, Nevada, 1981.

Cooper, J. A., J.R. Sherman, E. Miller, D. Redline, L. Valdonovnos and W. Pollard (1988). CMB Source Apportionment of PM_{10} Downwind of an Oil-Fired Power Plant in Chula Vista California. In *Transaction, PM_{10} Implementation of Standards*, C.V. Mathai and D.H. Stonefield (eds.), Air and Waste Management Association. Pittsburgh, PA, 495-507.

Corn, M. and F. Stein (1965). Re-entrainment of particles from a plane surface. *Am. Ind. Hyg. Ass. J.* 26, 325-336.

Cowherd, C. (1983). A new approach to estimating wind-generated emissions from coal storage piles. In *Fugitive Dust Issues in the Coal Use Cycle*, Air Pollution Control Association Specialty Conference Proceedings SP-51, C. Cowherd (ed.)

Cowherd, C., G.E. Muleski and J.S. Kinsey (1988). Control of Open Fugitive Dust Sources, Final Report. Prepared for the Environmental Protection Agency, Research Triangle Park, NC, by Midwest Research Institute, Kansas City, MO.

Cowherd, C., P. Englehart, G.E. Muleski, J.S. Kinsey and K.D. Rosbury (1990). *Control of Fugitive and Hazardous Dusts*. Noyes Data Corp., Park Ridge, NJ., 471 p.

Cuscino, T. Jr., G.E. Muleski, and C. Cowherd (1983a). Determination of the Decay in Control Efficiency of Chemical Dust Suppressants. In *Proceedings-Symposium on Iron and Steel Pollution Abatement Technology for 1982*. U.S. EPA, Research Triangle Park, NC, 1983.

Cuscino, T. Jr., G.E. Muleski, and C. Cowherd (1983b). *Iron and Steel Plant Open Source Fugitive Emission Control Evaluation*. EPA-600/2-83-110, U.S. Environmental Protection Agency, Research Triangle Park, NC, October 1983.

Davies, C.N. (1966). *Aerosol Science*. Academic Press, London, p. 468.

Davies, C.N. (1968). The entry of aerosols in sampling heads and tubes. *British Journal of Applied Physics* 2,291.

Drehmel, D.C., T. R. Blackwood, S. Calvert, R. G. Patterson and S.C. Yung (1978). *New Concepts for Control of Fugitive Dust*. Third Symposium on Fugitive Dust Emissions Measurement and Control, San Fransisco, CA, Oct 23-25, 1978

Dyck, R.I.J. and J.J. Stukel (1976). Fugitive Dust Emissions from Trucks on Unpaved Roads. *Environ. Sci. Technol.*, **10** (10), 1046-1048.

Eldred, R.A. (1988). IMPROVE Sampler Manual Version 2, Air Quality Group, Crocker Nuclear Lab, University of California, Davis, CA, 1988.

Eldred, R.A., T.A. Cahill, M. Pitchford and W.C. Malm (1988). IMPROVE -- A New Remote Area Particulate Monitoring System or Visibility Studies. Paper No. 88-54.3, presented at the Air Pollution Control Association 81st Annual Meeting, Dallas, TX, 1988.

Eldred, R.A., T.A. Cahill, P.J. Feeney, D.J. Shadoan, P.J. Beveridge and L.K. Wilkinson (1990). IMPROVE Standard Operating Procedures, Crocker Nuclear Laboratory, University of California, Davis, CA.

ETC (1981). *A Demonstration of Fugitive Dust Control Effectiveness on Selected OPen Dust Sources in South Buffalo, NY*. Report Prepared for: Erie County Department of Environment and Planning, by: Energy Technology Consultants, Inc.

Attachment to Submission BO118 (Raymond Carlson, J.G. Boswell Company (Atty. for), Griswold, LaSalle, Cobb, Dowd & Gin LLP (GLCDG), October 13, 2011) - Carlson_Letter_Attachments.pdf - Continued

Garland, J.A. (1983). Some recent studies of the resuspension of deposited material from soil and grass. In *Precipitation Scavenging, Dry Deposition and Resuspension*, Vol. 2, H. R. Pruppacher, R.G. Semonin and W.G.N Slinn (eds.), Elsevier, Amsterdam, 1087-1097.

Gillette, D. A. (1977). Fine particulate emissions due to wind erosion. *Trans. Am. Soc. Agric. Eng.* 20, 980-987.

Gillette, D. A. (1978). Test with a portable wind tunnel for determining wind erosion threshold velocities. *Atmos. Environ.* 12, 2309-2313.

Gillette, D.A. and K.J. Hanson (1989). Spatial and temporal variability of dust production caused by wind erosion in the United States. *J. Geophys. Res.* 94 (D2), 2197-2206.

Gillette, D.A. and R. Passi (1988). Modeling dust emission caused by wind erosion. *J. Geophys. Res.* 93 (D11), 14,233-14,242.

Gillette, D.A. and P.H. Stockton (1989). The effect of non-erodible particles on wind erosion of erodible surfaces. *J. Geophys. Res.* 94 (D10), 12,885-12,893.

Gillette, D.A., J. Adams, A. Endo, D. Smith and R. Kihl (1980). Threshold velocities for input of soil particles into the air by desert soils. *J. Geophys. Res.* 85 (C10), 5621-5630.

Gillette, D.A., J. Adams, D. Muhs and R. Kihl (1982). Threshold friction velocities and rupture moduli for crusted desert soils for the input of soil particles into the air. *J. Geophys. Res.* 87 (C11), 9003-9015.

Gillies, J.A. (1987). *Aeolian Thresholds and Sediment Transport Rates for Three Tillage Techniques*. Master Thesis, University of Guelph, 124 p.

Gillies, J.A. (1994). *A Wind Tunnel Study of the Relationships Between Complex Surface Roughness Form, Flow Geometry and Shearing Stress*. Ph.D. Thesis, University of Guelph, 231 p.

Gomes, L., G. Bergametti, G. Coude-Gaussen and P. Rognon (1990). Submicron Desert Dusts: A Sandblasting Process. *J. Geophys. Res.*, **95**, 13927-13935.

Goosens, D. (1985). The granulometric characteristics of a slowly-moving dust cloud. *Earth Surface Processes and Landforms* 10, 353-362.

Grau, R.H. (1993). *Evaluation of Methods for Controlling Dust*. U.S Army Corps of Engineers. Technical Report GL-93-25 September, 1993.

Greeley, R. and J.D. Iversen (1985). *Wind as a Geological Process*. Cambridge University Press, Cambridge, p. 333.

Gregory, P.H (1961). *The Microbiology of the Atmosphere*, Leonard Hill, London.

Hall, M. (1988). Comparison of Spectrex Laser Particle Counter with Coulter Counter and Pipette Sizing Methods. Poster presented at North East Geological Society of America Meeting, Portland, Maine, March 1988.

Hammond, R. and P.S McCullagh (1978). *Quantitative Techniques in Geography An Introduction*. Clarendon Press, Oxford, 364 p.

Hewitt, T. R. (1981). *The Effectiveness of Street Sweeping for Reducing Particulate Matter Background Concentration*. Research Triangle Park, NC, 1981.

Hidy, G.M. (1985). Jekyll Island Meeting Report: George Hidy Reports on the Acquisition of Reliable Atmospheric Data. *Envir. Sci. Technol.* 19 , 1032-1033.

Hinds, W.C. (1986). *Aerosol Technology*, Wiley Interscience. New York.

John, W., D.N. Fritter and W. Winklmayer (1991). Resuspension induced by impacting particles. *J. Aerosol Sci.* 22 (6), 723-736.

Kiefert, L., G. McTainsh and W.G. Nickling (1992). Pretreatment Techniques for Particle Size Analysis of Dust Samples from High Volume Sampler Filter Papers. *J. Sed. Pet.*, **62**(4), 729.

Kinsey, J.S. and A.J. Jirik (1982). *Study of Construction Related Dust Control*. For Minnesota Pollution Control Agency, Roseville, MN, December, 1982.

Kinsey, J.S. and C. Cowherd, Jr. (1992). Fugitive Emissions. *Air Pollution Engineering Manual*. A.J. Buonicore and W.T. Davis, eds. Prepared for Air and Waste Management Assoc., Van Nostrand Reinhold, New York, pp. 133-146.

Lancaster, N. J. and W.G. Nickling (1993). Aeolian Sediment Transport. In *Geomorphology of Desert Environments*, A. Abrahams and A. J. Parsons (eds.), Chapman and Hall, p.

Lehrsch, G.A and P.M. Jolley (1992). Temporal Changes in Wet Aggregate Stability. In *Transactions, ASAE*, **35**(2), 493.

Attachment to Submission BO118 (Raymond Carlson, J.G. Boswell Company (Atty. for), Griswold, LaSalle, Cobb, Dowd & Gin LLP (GLCDG), October 13, 2011) - Carlson_Letter_Attachments.pdf - Continued

Ley, T.W. (1994). An In-Depth Look at Soil Water Monitoring and Measurement Tools. *Irrigation Journal*. **44**, 8-20.

Linsley, G.S. (1978). *Resuspension of the Transuranium Elements - A Review of Existing Data*. NRPB-R75, HSMO, London.

Logie, M. (1982). Influence of Roughness Elements and Soil Moisture of Sand to Wind Erosion. *Catena Supp.*, **1**, 161-173.

Malcom, L.P. and M.R. Raupach (1991). Measurements in an Air Settling Tube of the Terminal Velocity Distribution of Soil Material. *J. Geophys. Res.*, **96**(D8), 15275-15286.

Marshall, J.K. (1971). Drag Measurements in Roughness Arrays of Varying Density and Distribution. *Agr. Meteorol.*, **8**, 269-292.

Mathai, C.V., J.G. Watson, F. Rogers, J.C. Chow, I. Tombach, J.O. Zwicker, T. Cahill, P. Feeney, R. Eldred, M. Pitchford, P.K. Mueller (1990). Intercomparison of Ambient Aerosol Samplers Used in Western Visibility and Air Quality Studies. *Environ. Sci. Technol.* 24, 1090-1099.

McKenna-Neuman C. and W.G. Nickling (1989). A Theoretical and Wind Tunnel Investigation of the Effect of Capillary Water on the Entrainment of Sediment by Wind. *Can. J. Soil Sci.*, **69**(1), 79.

McKenna-Neuman C. and W.G. Nickling (1994). Momentum extraction with saltation: implications for experimental evaluation of wind profile parameters. *Boundary-Layer Met.* 68, 35-50.

Mitra, A., C. Claiborn, B. L. Lamb and H. Westberg (1993). *Measurement and Source Apportionment of PM_{10} Roadway Emissions*. For Washington State Transportation Commission and U.S. Department of Transportation, Federal Highway Administration, February, 1993.

Mollinger, A.M., F.T.M. Nieuwstadt and B. Scarlett (1993). Model Experiments of the Resuspension Caused by Road Traffic. *Aerosol Sci. Technol.*, **19**(3), 330-338.

Mueller, P.K and J.G. Watson (1981). *The SURE Measurements*. Presented at 74th Annual Meeting Air Pollution Control Association, Pittsburg, PA.

Mueller, P.K., G.M Hidy and E.Y. Tong (1979). *Implementation and Coordination of the Sulfate Regional Experiment (SURE) and Related Research Programs*. Document # EA-1066, Electric Power Research Institute, Palo Alto, CA.

Muleski, G.E. and C. Cowherd (1987). Evaluation of the Effectiveness of Chemical Dust Suppressants on Unpaved Roads., Document # EPA-600/2-87-102. Air and Energy Engineering Research Laboratory, U.S. Environmental Protection Agency, Research Triangle Park, NC.

Muleski, G. and K. Stevens (1992). PM_{10} Emissions from Public Unpaved Roads in Rural Arizona. *Transactions, PM_{10} Standards and Nontraditional Particulate Source Controls*., J.C. Chow and D.M. Ono, editors. Air and Waste Management Association, Pittsburgh, PA, pp. 324-334.

Nicholson, K.W. (1993). Wind tunnel experiments on the resuspension of particulate material. *Atmos. Envir.* 27A (2), 181-188.

Nicholson, K.W. and J.R. Branson (1990). Factors Affecting Resuspension. In *Highway Pollution: Proceedings of the Third International Symposium*, Munich, West Germany. R.S. Hamilton, D.M. Revitt and R.M. Harrison, eds. Road Traffic, **93**, 349-358.

Nicholson, K.W., J.R. Branson, P. Geiss and R.J. Cannell (1989). The effects of vehicle activity on particle resuspension. *Journal of Aerosol Science* 20, 1425-1428.

Nickling, W.G. (1978). Eolian Sediment Transport During Dust Storms: Slims River Valley, Yukon Territory, Canada. *Can. J. Earth Sci.*, **15**, 1069-1084.

Nickling, W.G. (1995). Design and Flow Characteristics of Portable Field Wind Tunnels. Report prepared for the Desert Research Institute, Reno, NV, by the Dept. of Geography, University of Guelph, Guelph, Ontario, Canada.

Nickling, W.G. and J.A. Gillies (1987). *Particulate Emissions from Chip Piles at the E. B. Eddy Forest Products Plant, Espanola, Ont.* For RWDI Consulting Engineers, Guelph, Ont.

Nickling, W.G. and J.A. Gillies (1989). Emission of Fine-Grained Particulates from Desert Soils. *Paleoclimatology and Paleometeorology: Modern and Past Patterns of Global Atmospheric Transport*. M. Leinen and M. Sarnthein, eds. Kluwer Academic Publishers, pp. 133-165.

Nickling, W.G. and J.A. Gillies (1991). *Sahelian Aerosols (Mali)*. Final Technical Report 3. For International Development Research Centre, Project 3-P-86-1045, February 1991.

Nickling, W.G. and J.A. Gillies (1993). Dust Emission and Transport in Mali, West Africa. *Sedimentology.*, **40**, 859-868.

Attachment to Submission BO118 (Raymond Carlson, J.G. Boswell Company (Atty. for), Griswold, LaSalle, Cobb, Dowd & Gin LLP (GLCDG), October 13, 2011) - Carlson_Letter_Attachments.pdf - Continued

Ondov, J.M. (1974). A Study of Trace Elements on Particles from Motor Vehicles. University of Maryland, College Park, MD.

Parisi, J., B. Adams, J. Boyum, G. Griffin, and C. Yoshida (1993). *Eugene Carbon Monoxide Saturation Study*. For Lane Regional Air Pollution Authority, Sprigfield, OR, September 1993.

Patterson, E.M and D.A. Gillette (1977). Measurements of visibility vs mass-concentration for airborne soil particles. *Atm. Envir.* 11, 193-196.

Pierson, W.R. and W.W. Brachaczek (1974). Airborne Particulate Debris from Rubber Tires. *Rubber Chem. and Technol.*, 47(5), 1275.

Pilat, M.J , D.S. Ensor and J.C. Bosch (1970). Source Test Cascade Impactor. *Atmos. Env.* 4, 671.

Pinnick, R.G., G. Fernandez, B.D. Hinds, C.W. Bruce, R.W. Schaefer and J.D. Pendelton (1985). Dust Generated by vehicular traffic on unpaved roadways: sizes and infrared extinction characteristics. *Aerosol Science and Technology*, 4, 99-121.

Pleasant, M. (1994). *Philadelphia Diesel Particulate Monitoring Study*. EPA 68-D0-0106, U. S. Environmental Protection Agency, Research Triangle Park, NC.

Purdue, L.J. (1988). EPA PM_{10} methodology requirements. In *Transactions, PM_{10}: Implementations of Standards*, C.V. Mathai and D.H. Stonefield, eds. APCA/EPA, San Francisco, CA,.

Pye, K. (1987). *Aeolian Dust and Dust Deposits.*, Academic Press, London, England.

Raabe, O.G., D.A. Braaten, R.L. Axelbaum, S.V. Teague and T.A. Cahill (1988). Calibration Studies of the DRUM Impactor. *J. Aerosol Sci.*, 19,2, 183.

Raupauch, M.R. (1992). Drag and Drag Partition on Rough Surfaces. *Boundary-Layer Meteorology*. 60, 375-395.

Raupauch, M.R., R.A. Antonia and S. Rajagopalan (1991). Rough-wall turbulent boundary layers. *Boundary-Layer Meteorology* 60, 375-395.

Raupauch, M.R., P.A. Coppin and B.J. Legg (1985). Experiments on scalar dispersion within a plant canopy, Part I: the turbulence structure. *Boundary-Layer Meteorology* 35, 21-52.

Raupauch, M.R., A.S. Thom and I. Edwards (1980). A Wind Tunnel Study of Turbulent Flow Close to Regularly Arrayed Rough Surfaces. *Boundary-Layer Meteorology.*, 18, 373-397.

Record, F.A. and R.M. Bradway (1978). *Philadelphia Particulate Study*. EPA 68-02-2345, U. S. Environmental Protection Agency, Region III, Air Programs Branch, Philadelphia, PA, June 1978.

Reeks, M. W., J. Reed and D. Hall (1985). *The Long Term Suspension of Small Particles by a Turbulent Flow-Part III. Resuspension for Rough Surfaces*. TPRD/B/0640/N85. CEGB Berkeley Nuclear Labs, Gloucestershire. U.K.

Richards, L.A. (1953). Modulus of Rupture as an Index of Crusting of Soil. Soil Science Society Proceedings., *Soil Science Society.*, 321-323.

Roberts, J.W., H. A. Watters, C.A. Mangold and A.T. Rossano (1975). Cost and Benefits of Road Dust Control in Seattle's Industrial Valley. *J. Air Poll. Cont. Assoc.* 25 (9), 948-952.

Rogers, C.F., J.G. Watson, Jr., and C.V. Mathai (1989). Design and Testing of a New Size Classifying Isokinetic Sequential Aerosol Sampler. *J. Air Poll. Cont. Assoc.* 39, 1569-1576.

Rosbury, K.D. and R.A. Zimmer (1983). Cost-Effectiveness of Dust Controls Used on Unpaved Haul Roads, Volume 1 -- Results, Analysis, and Conclusions. USBM Contract # J0218021, Prepared by PEDCo Environmental, Inc., for the Bureau of Mines, United States Department of the Interior.

Rosinski, J., G. Langer, C.T. Nagamoto and J.S. Bogard (1976). Generation of secondary particles from single large soil particles upon impact. *Proc. of the Atmosphere-Surface Exchange of Particulate and Gaseous Pollutants*. Richland Washington, 4-6 Sept. 1974. Energy Res. and Dev. Admin. Symp. Ser. CONF740921. Nat. Tech. Inf. Serv. Springfield, Virginia, 638-647.

Scott, W.D. and D.J. Carter (1986). The Logarithmic Profile in Wind Erosion: An Algebraic Solution. *Boundary-Layer Meteorology.*, 34, 303-310.

Selker, J.S., L. Graff and T. Steenhuis (1993). Noninvasive Time Domain Reflectometry Moisture Measurement Probe. *Soil Sci. Soc. Am. J.*, 57, pp. 934-936.

Attachment to Submission BO118 (Raymond Carlson, J.G. Boswell Company (Atty. for), Griswold, LaSalle, Cobb, Dowd & Gin LLP (GLCDG), October 13, 2011) - Carlson_Letter_Attachments.pdf - Continued

Seton, Johnson and Odell Inc. (1983). Final Report, Portland Road Dust Demonstration Project. For Department of Public Works, City of Portland, OR.

Shinn, J.H., J.C. Kennedy, J.S. Koval, B.R. Clegg and W.M. Porch (1976) Observations of dust flux in the surface boundary layer for steady and nonsteady cases. In *Proceedings, Atmosphere-Surface Exchange of Particulates and Gaseous Pollutants*, Richland Washington, 4-6 Sept. 1974. Energy Res. and Dev. Admin. Symp. Ser. CONF740921. Nat. Tech. Inf. Serv. Springfield, Virginia, 625-637.

Stevens, K. (1991). *Unpaved Road Emissions Impact. Final Report*. Report Prepared for Arizona Department of Environmental Quality, by Midwest Research Institute, MRI Project No. 9525-L.

Stevens, R.K. and T.G. Dzubay (1978). *Dichotomous Sampler- A Practical Approach to Aerosol Fractionation and Collection.* EPA-600/2-78-112, U. S. Environmental Protection Agency, Research Triangle Park, NC.

Svasek, T.N. and J.H. Terwindt (1974). Measurement of sand transport by wind on a natural beach. *Sedimentology* 21, 311-322.

Tackett, K.M., T.R. Blackwood and W.H. Hedley (1980). *Evaluation of Road Carpet for Control of Fugitive Dust Emissions*. U.S. EPA Contract #68-020-3107, Industrial Environment Research Lab, Research Triangle Park, NC.

Terzaghi, K. and R.B. Peck (1969). *Soil Mechanics in Engineering Practice*. Wiley and Sons.

Thornthwaite, C.W. (1931). The Climates of North America According to a New Classification. *Geographical Review.*, **21**, 633-655.

Toogood, J.A. (1978). Relation of Aggregate Stability to Property of Alberta Soils. In *Modification of Soil Structure*, W.W. Emerson *et al.*, eds. John Wiley & Sons, New York.

U.S. Department of Agriculture (1960). *Soil Classification, A Comprehensive System, 7th Approximation*. Soil Survey Staff, Soil Conservation Service, 265 p.

U.S. Department of Agriculture (1962). *Soil Survey, Merced Area California*. USDA, Soil Conservation Service.

U.S. Department of Agriculture (1980). *Soil Survey of Washoe County, Nevada, South Part*. USDA, Soil Conservation Service.

U.S. Department of Commerce (1968). *Climatic Atlas of the United States*. U.S. Department of Commerce, Washington D.C.

U.S. Environmental Protection Agency (1981). *Workbook: Demonstration Studies for Control of Nontraditional Particulate Sources*. Contract No. 68-02-2535, Work ASsignment No. 15. U.S. EPA, Office of Air Quality Planning and Standards, Control Programs Operations Branch, March, 1981.

U.S. Environmental Protection Agency (1988). Compilation of Air Pollutant Emission Factors. Volume I: Stationary Point and Area Sources. U.S. Environmental Protection Agency, Office of Air and Radiation, Office of Air Quality Planning and Standards, Research Triangle Park, NC.

U.S. Government Printing Office (1991). Clean Air Act Amendments of 1990. Conference Report to Accompany S. 1630, House of Representatives, Superintendent of Documents. U.S. Government Printing Office, Washington, D.C.

Watson, J.G. and J.C. Chow (1993). Ambient Air Sampling. Chapter 28 in *Aerosol Measurement: Principles, Techniques and Applications*, K. Willeke, ed. Van Nostrand Reinhold, New York, NY, pp. 622-639.

Watson, J.G., J.C. Chow, J.J. Shah and T. Pace (1983). The Effect of Sampling Inlets on the PM_{10} and PM_{15} to TSP Concentration Ratios. *JAPCA*, **33**, 114-119.

Watson, J.G., J.C. Chow and C.V. Mathai (1989a). Receptor Models in Air Resources Management: A Summary of the APCA International Specialty Conference. *JAPCA*, **39**, 419-426.

Watson, J.G., P.J. Lioy and P.K. Mueller (1989b). The Measurement Process: Precision, Accuracy and Validity. In *Air Sampling Instruments for Evaluation of Atmospheric Contaminants* (7th Edition). S.V. Hering (ed.), American Conference of Governmental Industrial Hygeniests, Cincinnati, OH, 51-57.

Watson, J.G., N.F. Robinson, J.C. Chow, R.C. Henry, B.M. Kim, T.G. Pace, E.L. Meyer and Q. Nguyen (1990). The USEPA/DRI Chemical Mass Balance Receptor Model, CMB 7.0. *Environ. Software*, **5**(1), 38-49.

Watson, J.G., J.C. Chow and T.G. Pace (1991). Chemical Mass Balance. In *Data Handling in Science and Technology--Volume 7: Receptor Modeling for Air Quality Management*, P.K. Hopke, ed. Elsevier Press, New York, NY, pp. 83-116.

Attachment to Submission BO118 (Raymond Carlson, J.G. Boswell Company (Atty. for), Griswold, LaSalle, Cobb, Dowd & Gin LLP (GLCDG), October 13, 2011) - Carlson_Letter_Attachments.pdf - Continued

Watson, J.G., P. Roth, D.L. Blumenthal, A.J. Ranzieri, P.A. Solomon and R.H. Thuillier (1994). Recommendations on Planning a Large-Scale Combined Monitoring Modeling Effort Based on the SJVAQS/AUSPEX Air Quality Study. In *Planning and Managing Air Quality Modeling and Measurements Studies: A Perspective Through SJVAQS/AUSPEX*, P.A. Solomon, ed. Lewis Publishers, Chelsea, MI, in conjunction with Pacific Gas and Electric Company, San Ramon, CA, pp. 369-382.

Weems, T. (1991). Survey of Moisture Measurement Instruments. *Irrigation Journal.*, **41**, 12-16.

Wieringa, J. (1993). Representative Roughness Parameters for Homogeneous Terrain. *Boundary-Layer Meteorol.*, 63(4), 323-364.

Winges, K.D. (1990). *User's Guide for the Fugitive Dust Model.* U.S. EPA Report #EPA-910/9-88-202R, revised September, 1992. U.S. EPA Region 10, Seattle, WA.

Zimmer, R., W. Reeser and P. Cummins (1992). Evaluation of PM_{10} Emission Factors for Paved Streets. In *Transactions, PM_{10} Standards and Nontraditional Particulate Source Controls.* J.C. Chow and D. Ono, eds. Air & Waste Management Association, Pittsburgh, PA, pp. 311-323.

Zobeck, T.M. (1989). Fast-Vac: A Vacuum System to Rapidly Sample Loose Granular Material. *Transactions of the ASAE.*, **32**, 1316-1318.

Zobeck, T.M. (1991). Soil properties affecting wind erosion. *J. Soil and Water Cons.* 46, 112-118.

Zobeck, T.M. and D.W. Fryrear (1986a). Chemical and Physical Characteristics of Windblown Sediment. I. Quantities and Physical Characteristics. *Trans. Am. Soc. Ag. Engin.*, **29**, 1037-1036.

Zobeck, T.M. and D.W. Fryrear (1986b). Chemical and Physical Characteristics of Windblown Sediment. II. Chemical characteristics and total soil and nutrient discharge. *Trans. Am. Soc. Agr. Engin.* 29, 1037-1041.

APPENDIX A

Table A-1

Suppressants and Vendors

Product Name and Active Ingredient	Vendor Information
A. SALTS	
Calcium Chloride	Lee Chemical, Inc. 21250 Box Springs Road Moreno Valley, CA 92387 Attn: Bud Bardsley (909) 369-5292
Calcium Chloride	Hill Brothers Chemical Company 1675 N. Main Street Orange, CA 92667 Attn: Alfred McCarthy (714) 998-8800
Magnesium Chloride	Western Spreading and Transportation, Inc. 641 Rock Springs Road Escondido, CA 92025 Attn: Nick Izzi (909) 784-7411
MgCl ("Dust-Off")	South Western Sealcoating, Inc. 23644 Adams Ave. Murietta, CA 92562 (909) 677-6228
MgCl ("Dust-Off")	California-Fresno Oil Company PO Box 527 Fresno, CA 93709 (209) 486-0220
MgCl	Jim Good Marketing P.O. Box 717 Shafter, CA 93263 Attn: Jim Good (805) 746-3783

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Product Name and Active Ingredient	Vendor Information
MgCl	Chemical Distributors, Inc. 201 Bryce Court Henderson, NV 89105 Attn: Carrie Burgess (702) 565-4904
MgCl	Soil Stabilization Products Co. P.O. Box 2779 Merced, CA 95344 Attn: Glen Gates or Marsh Pitman (800) 523-9992
MgCl	Dustpro, Inc. 2432 W. Peoria Ave. Suite #1160 Phoenix, AZ 85029 Attn: Greg Frey (602) 944-8411
"Brine"	Leslie Salt Co. 7200 Central Ave. Newark, CA 94560 (415) 790-8169
B. ASPHALT/PETROLEUM EMULSIONS	
Coherex (Petroleum resin emulsion)	WITCO, Golden Bear Division P.O. Box 456 Chandler, AZ 85244-0161 Attn: Roy McNeal (602) 963-2267
Retain (asphalt emulsion)	Diversey Corp Attn: Linda Coffee or Randy Bryan (818) 961-6305
Asphotac (asphalt emulsion)	Pragma, Inc. P.O. Box 1658 Sutter Creek, CA 95685 Attn: Ray Hunter (209) 267-5072

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Product Name and Active Ingredient	Vendor Information
Dust Oil Emulsion (asphalt emulsion)	Morgan Emultech, Inc. 7200 Pit Road P.O. Box 1500 Redding, CA 96099 (916) 241-1364
Pennzsuppress D	Pennzoil Products Company 12070 Telegraph Road Suite #324 Santa Fe Springs, CA 90670 Attn: Brad Welshans (310) 906-4300
FlowPro 1505 (petroleum resin emulsion)	Betz Water Management Group Big Valley District Office 4201 Ardmore Way ,#7 Bakersfield, CA 93309 (805) 835-9194
C. OTHER EMULSIONS	
Road Oyl (tree resin emulsion)	Soil Stabilization Products Co. P.O. Box 2779 Merced, CA 95344 Attn: Glen Gates or Marsh Pitman (800) 523-9992
Pineseal (tall oil pitch, tall oil rosin, and lignin)	Western Emulsions Inc. Dust Control Division 22155 Big Timer Road Moreno Valley, CA 92557 Attn: Nicolas J. Izzi (909) 784-7411

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Product Name and Active Ingredient	Vendor Information
Enduraseal 100 and 200 (organic, water-based emulsions)	Cascadia Technologies Ltd. 602-626 West Pander St. Vancouver, B.C., Canada V6B1V9 Attn: Glenn Coward (800) 665-2994 Environmental Products and Applications Co. 15017 Notnil Way Lake Elsinore, CA 92530 Attn: John Vermillion (909) 674-9174
Entac (organic emulsion)	Diversified Services, Inc. P.O. Box 337 Elizabethton, TN 37644 Attn: John McDonnell (615) 542-9100
D. LIGNIN SULFONATE	
Lignin Sulfonate	RBJ Transport, Inc 1735 N. Ashby Road Merced, CA Attn: Tim Prothro (209) 722-2731
Lignin Sulfonate	Midwest Industrial Supply, Inc. P.O. Box 8431 Canton, OH 44711 Attn: Frank Elswick (805) 937-7157
Lignin Sulfonate ("Calbinder")	California-Fresno Oil Company PO Box 527 Fresno, CA 93709 (209) 486-0220
DUSTAC	Georgia Pacific Monrovia, CA (800) 955-5498

Product Name and Active Ingredient	Vendor Information
E. POLYMERS	
Coherex PM (petroleum emulsion with polymer)	WITCO, Golden Bear Division P.O. Box 456 Chandler, AZ 85244-0161 Attn: Roy McNeal (602) 963-2267 Reed and Graham, Inc. 8280 14th Ave. Sacramento, CA 95826 Attn: Steve Aguirre (916) 454-2560
Soil Sement (polymer emulsion)	Midwest Industrial Supply, Inc. P.O. Box 8431 Canton, OH 44711 Attn: Frank Elswick (805) 937-7157
Soil Master WR (co-polymer with "Tripolycate")	Environmental Soil Systems Inc. 13234 Whistler Ave. Granada Hills, CA 91344 Attn: Rick Granard (800) 368-4115
DC-1000	Native Soil Technology, Inc. P.O. Box 502 Danville, CA 94526 Attn: Bob Crandall (510) 837-5362
DSS-40 (acrylic co-polymer)	S&S Seeds P.O. Box 1275 Carpenteria, CA 93013 Attn: Victor Schaff (805) 684-0436
DSS-40 (acrylic co-polymer)	Karleskint-Crum, Inc. PO Box 5358 San Luis Obispo, CA 93403 (805) 543-3304

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Product Name and Active Ingredient	Vendor Information
DSS-40 (acrylic co-polymer)	J&M Land Restoration, Inc. 1640 James Rd. Bakersfield, CA 93308 (805) 872-7039
Eco-Polymer	Eco-Polymers, Inc. P.O. Box 4860 Cerritos, CA 90703-4860 Attn: Ron Reed (310) 407-3090
Marloc (co-polymer)	Reclamare Company 20727 - 7th Avenue S. Seattle, WA 98198 Attn: Edward R. Johston (206) 824-2385
Soil Seal	Soil Seal Corporation 3015 Supply Avenue Los Angeles, CA 90040 (213) 727-0654
Terrafirma	AET Group 655 Lewelling Blvd., Suite 315 San Leandro, CA 94579 Attn: Regan Jones (209) 836-4884
ECO-110 and C-50	Dynaguard, Inc. 1034 N. Lemon Street Orange, CA 92667 Attn: Craig Hoad (714) 771-7411
Blend R40 Series (polymer emulsions)	Rohm and Haas Company Toxicology Department 727 Norristown Road P.O. Box 904 Spring House, PA 19477-0904 Attn: J.D. Hamilton (215) 641-7000

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Product Name and Active Ingredient	Vendor Information
Dewatered Residual Wood Fiber	Envirosorb 1815 Wright Ave. La Verne, CA 91750 Attn: Steve McGuire (909) 392-5878
Soil Guard (bonded fiber matrix)	S&S Seeds P.O. Box 1275 Carpenteria, CA 93013 Attn: Victor Schaff (805) 684-0436
Excel-Fibermulch II (Aspen wood mulch)	American Excelsior Company 8320 Canford Street Pico Rivera, CA 90660-3702 Attn: Larry Halweg (310) 949-2461
Cellulose Fiber (Ecology Controls "M-Binder")	Sanders Hydroseeding, Inc. 1708 South Santa Fe Santa Ana, CA 92705 (714) 973-TURF
Cellulose Fiber (Ecology Controls "M-Binder")	S&S Seeds P.O. Box 1275 Carpenteria, CA 93013 Attn: Victor Schaff (805) 684-0436
Hydrophilic colloid derived from seed husks ("Sentinel")	Albright Seed Company 487 Dawson Drive Bay 55 Camarillo, CA 93012 (805) 484-0551
Ecotak-OP and Ecotak-SAT	Elloitt Landscaping 68-315 Durango Road Cathedral City, CA 92234 Attn: Mukul Joisher (619) 320-0176

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San Joaquin Valley Air Pollution Control District

2011 Air Monitoring Network Plan

June 30, 2011

For Submittal to the U.S. Environmental Protection Agency in July 2011

San Joaquin Valley Unified Air Pollution Control District June 30, 2011

San Joaquin Valley Unified Air Pollution Control District
1990 E. Gettysburg Avenue
Fresno, California 93726

(559) 230-6100

www.valleyair.org

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The District's Core Values and the District's Air Monitoring Network

*** Protect Public Health ***

The District uses data collected from the Valley air monitoring network to generate daily air quality forecasts and, when needed, issue health advisories. The District also uses data collected from the Valley's air monitoring network as the basis for long-term attainment strategies and to track progress towards health-based air quality standards.

*** Active and effective air pollution control efforts with minimal disruption to the Valley's economic prosperity ***

The District uses air monitoring data to help determine what kind of air pollution control efforts are needed to achieve health-based air quality standards.

*** Outstanding Customer Service ***
*** Accountability to the public ***

The District's website provides timely and easy public access to data from the Valley's real-time air monitors. The public can also access summaries of the previous seven days of air quality for ozone and particulate matter.

*** Open and transparent public processes ***

In addition to making air quality data available in real-time, the District uses air quality data in a variety of publicly available documents and reports. The District also conducts a public review period for annual monitoring network plans.

*** Respect for the opinions and interest of all Valley residents ***

The District has actively made daily air quality information available to Valley residents in a variety of formats, from the District website to the media, and even with air quality flags at schools. The District considers public interests in establishing new air monitoring stations.

*** Ingenuity and innovation ***

The District uses new and improved air monitoring techniques as these techniques are approved by the EPA. The District uses the latest science when siting air monitors. In turn, data collected from the monitoring network contributes to ongoing scientific evaluations.

*** Continuous improvement ***

The District evaluates the air monitoring network in the annual Monitoring Network plan for opportunities for better data collection and greater efficiency. Furthermore, improved air monitoring is a continuous effort; throughout the year, the District seeks out opportunities to improve the air monitoring network.

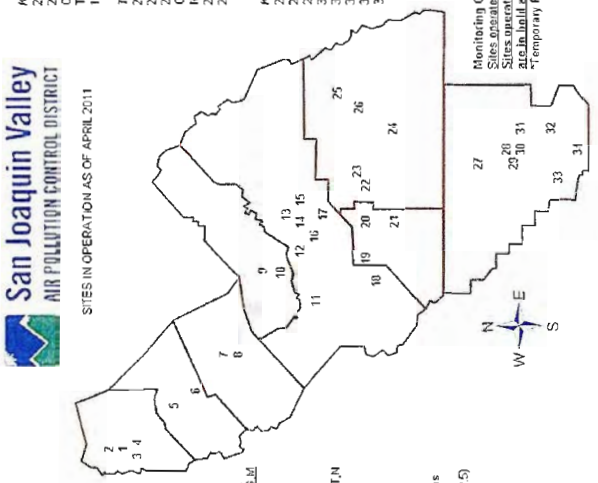
*** Recognition of the uniqueness of the San Joaquin Valley ***

The San Joaquin Valley is an expansive and diverse area. The District sites air monitors to represent each type of area and each portion of the region.

*** Effective and efficient use of public funds ***

An air monitoring network requires personnel, instruments, parts, energy, and leases. The District makes the most of limited resources by structuring the air monitoring network in a way that optimizes personnel time and funding for instruments. The result is a robust air monitoring network that helps the Valley reach its air quality goals without unnecessary expenditures.

Figure 1 Map of Air Monitoring Sites in the San Joaquin Valley



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Executive Summary

The San Joaquin Valley Air Pollution Control District (SJVAPCD or District) operates an extensive network of air quality monitors throughout the San Joaquin Valley (Valley) to support its mission of improving and protecting public health. On a short term scale, District staff use the hourly readings from real-time monitors daily to generate an Air Quality Index (AQI) for each of the Valley's eight counties. The AQI is displayed on the District website, in Valley media and the Real-time Air Advisory Network (RAAN), and as school air quality flags to communicate the current state of air quality to Valley residents so they can keep air quality in mind as they plan their activities. The District also uses real-time air quality data to manage prescribed burning, agricultural burning, and residential wood combustion to ensure these activities do not make air quality unhealthy.

The Valley's attainment status for the U.S. Environmental Protection Agency's (EPA) health-based air quality standards, the foundation of the District's air quality attainment plans (such as the *2007 Ozone Plan*, the *2008 PM2.5 Plan*, and upcoming plans), and the studies that contribute to these plans are determined by the monitoring data that is collected. As part of the District's long-term efforts to improve public health, air monitors collect data that is rigorously analyzed by laboratory technicians and District staff. This data is fundamental in the Valley's effort to achieve improved air quality and attainment of EPA's health-based standards as quickly as possible.

The San Joaquin Valley covers an area of 23,490 square miles, and the area is home to one of the most challenging air quality problems in the nation. The Valley is nonattainment for federal PM2.5 and ozone standards, is in attainment of the federal standards for lead, Nitrogen dioxide, Sulfur dioxide, and Carbon monoxide. In addition, the Valley is an attainment/maintenance area for PM10. The Valley is home to approximately 4 million residents, and includes several major metropolitan areas, vast expanses of agricultural land, industrial sources, highways, and schools. This expansive and diverse area comprises many air quality needs, yet there are limited financial and personnel resources for air quality monitoring.

Despite these limitations and challenges, the District maintains a robust air monitoring program. The District follows federal monitoring requirements and guidelines to ensure an efficient and effective monitoring network. This monitoring network plan describes the District's approach for implementing federal air monitoring and quality control requirements and summarizes recent and upcoming changes to the monitoring network. As specified in 40 CFR 58.10(a), this plan is made available for public inspection at least 30 days prior to submission to EPA.

Introduction: Air Monitoring Network Plan requirements

Annual monitoring network plans review a region's existing and proposed monitoring network in compliance with 40 CFR (Code of Federal Regulations) 58.10 as well as requirements linked to the District's EPA 105 Grant. The annual monitoring network plans are updated and submitted to the EPA Regional Administrator each year, and each plan must be made available for public inspection for at least 30 days prior to submission to EPA. The plans are to provide for the establishment and maintenance of an air monitoring network that may include the following types of stations and equipment:

Abbreviation	Full Name	Description
ARM	Approved Regional Method	A method that has been approved within a specific region for comparison to federal air quality standards. *There are no ARM monitors in the San Joaquin Valley.*
FEM	Federal Equivalent Method	These monitors are considered to be equivalent to FRM monitors for the purpose of determining compliance with EPA's health-based air quality standards.
FRM	Federal Reference Method	EPA defines how these monitors are to work, how they are to be engineered, and how they are to measure pollutants. These monitors are used to determine compliance with EPA's health-based air quality standards.
NCore	National Core	Multipollutant monitoring stations; in California, these are operated by the California Air Resources Board (CARB)
PAMS	Photochemical Assessment Monitoring Station	VOC (volatile organic compounds) speciation sites used in serious, severe, or extreme ozone nonattainment areas for precursor evaluation.
SLAMS	State and Local Air Monitoring Station	Monitoring sites that are used for determinations of compliance with federal air quality standards, though they may be used for other purposes as well
SPM	Special Purpose Monitor	Not included when showing compliance with the minimum air monitoring requirements; an example might include a temporary monitoring station set up in an area to measure short term air quality impacts of a source. Data collected from an SPM can be used for Regulatory purposes if the monitor has been operational for two years and if the monitor is an ARM, FEM, or FRM.
STN	Speciated Trends Network	PM2.5 speciation stations that provide chemical speciation data of PM

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The monitoring network plan should include a statement of purpose for each monitor and evidence that siting and operation of each monitor meets the requirements of appendices A, C, D, and E of 40 CFR part 58. The plan must contain the following information for each existing and proposed site (40 CFR 58.10 (b)):

- The MSA, CBSA, CSA, or other area represented by the monitor. MSA, CBSA, and CSA are statistical-based definitions for metropolitan areas provided by the Office of Management and Budget and the Census Bureau (see Table 1):
  - MSA: Metropolitan statistical area
  - CBSA: Core-based statistical area
  - CSA: Combined statistical area
- Air quality system (AQS) AIRS Code site identification number (see Table 2)
- Locations: street address and geographical coordinates
- Sampling and analysis methods for each measured parameter
- Operating schedules for each monitor
- Monitoring objective and spatial scale of representativeness for each monitor (as defined in Appendix D to 40 CFR 58)
- Any proposals to remove or move a monitoring station within 18 months of a plan submittal. Any proposed additions and discontinuations of SLAMS monitors are subject to approval according to 40 CFR 58.14
- Each air monitor is sited to satisfy at least one of three specific criteria:
  - Population (see Table 3)
  - Generally consistent pollution concentrations
  - A specific geographic scale

Table 1 SJV Areas of Representation

Title	*Code*
Combined Statistical Area (CSA)	**CSA Code**
Fresno-Madera CSA	260
Metropolitan Statistical Area (MSA)	**Core-based Statistical Area (CSBA) Code**
Bakersfield [1]	12540
Fresno	23420
Hanford-Corcoran	25260
Madera	31460
Merced	32900
Modesto	33700
Stockton	44700
Visalia - Porterville	47300

SJV Areas of Representation

Title	*Code*
Counties	**Federal Information Processing Standard (FIPS) Code**
Fresno	06019
Kern	06029
Kings	06031
Madera	06039
Merced	06047
Stanislaus	06099
San Joaquin	06077
Tulare	06107

[1] Monitors from both the District and the Kern County Air Pollution Control District can be counted in determining compliance with minimum monitoring requirements for the Bakersfield MSA. However, only monitors located within the District's boundaries are included in this network plan.

Table 2 Site Identification and AQS AIRS Codes

MSA/CBSA: Fresno		
County: Fresno		
Site Name	**AIRS Code**	**Agency**
Clovis–Villa	060195001	SJVAPCD
Fresno--Drummond	060190007	SJVAPCD
Fresno–First	060190008	CARB
Fresno–Pacific	060195025	SJVAPCD
Fresno–Sky Park	060190242	SJVAPCD
Huron	060192008	SJVAPCD
Parlier	060194001	SJVAPCD
Tranquillity	060192009	SJVAPCD
MSA/CBSA: Bakersfield		
County: Kern (Valley Portion)		
Site Name	**AIRS Code**	**Agency**
Arvin–Di Giorgio	060295002	CARB
Bakersfield–California	060290014	Shared [2]
Bakersfield–Planz	060290016	CARB
Edison	060290007	CARB
Lebec	060292009	SJVAPCD
Maricopa	060290008	SJVAPCD
Oildale	060290232	CARB
Shafter	060296001	Shared [1]

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Site Identification and AQS AIRS Codes

Site Name	AIRS Code	Agency
MSA/CBSA: Hanford – Corcoran		
County: Kings		
Corcoran–Patterson	060310004	SJVAPCD
Hanford--Irwin	060311004	SJVAPCD
Santa Rosa Rancheria	060310500	Tachi-Yokut Tribe
MSA/CBSA: Madera		
County: Madera		
Madera–City	060392010	SJVAPCD
Madera–Pump Yard	060390004	SJVAPCD
MSA/CBSA: Merced		
County: Merced		
Merced–Coffee	060470003	SJVAPCD
Merced–M Street	060472510	SJVAPCD
MSA/CBSA: Stockton		
County: San Joaquin		
Manteca	060772010	SJVAPCD
Stockton--Hazelton	060771002	CARB
Stockton–Wagner/Holt	060773010	SJVAPCD
Tracy–Airport	060773005	SJVAPCD
MSA/CBSA: Modesto		
County: Stanislaus		
Modesto–14th Street	060990005	CARB
Turlock	060990006	SJVAPCD
MSA/CBSA: Visalia – Porterville		
County: Tulare		
Porterville	061072010	SJVAPCD
Sequoia–Ash Mountain	061070009	National Park Service
Sequoia–Lower Kaweah	061070006	National Park Service
Visalia–Airport	061073000	SJVAPCD
Visalia–Church	061072002	CARB

[1] Site operated by CARB and SJVAPCD
[2] Site operated by CARB and one temporary monitor operated by SJVAPCD.

Table 3 San Joaquin Valley 2009 Population

County	Total County Population	Major Urban Area Pop > 100,000	Urban Area Pop < 100,000 and > 50,000
Fresno	942,298	Fresno	Clovis
Kern (Entire County)	827,173	Bakersfield	Delano
Kern (Valley Portion)	686,967	Bakersfield	Delano
Kings	154,743	--	Hanford
Madera	152,331	--	Madera
Merced	256,450	--	Merced
San Joaquin	689,480	Stockton	Lodi, Manteca, Tracy
Stanislaus	526,383	Modesto	Turlock
Tulare	441,481	Visalia	Porterville, Tulare
SJV Total	3,850,133		

Data from California Department of Finance E-4 Population Estimates for Cities, Counties and the State, 2001-2009, with 2000 Benchmark. Estimates for 1/1/2010 are not yet available.

There are several network plan requirements that pertain specifically to PM2.5 monitoring. For example, the monitoring network plan must identify which sites are suitable and which are not suitable for comparison against the annual PM2.5 national ambient air quality standards (NAAQS) as described in 40 CFR 58.30. The plan must also document how agencies provide for public review of changes to the PM2.5 monitoring network when the change impacts the location of a violating PM2.5 monitor or the creation/change to a community monitoring zone. If the District uses spatial averaging, a description of the proposed use of spatial averaging for purposes of making comparisons to the annual PM2.5 NAAQS as required in Appendix N to part 50 should be included. Agencies should submit any public comments received from PM2.5 monitoring changes in the submittal of the network plan.

Monitoring Objectives and Spatial Scales

Appendix D to 40 CFR Part 54 identifies three basic **monitoring objectives**:

- Provide air pollution data to the general public in a timely manner (**timely/public**)
- Support compliance with ambient air quality standards and emissions strategy development (**standards/strategy**)
- Support for air pollution research studies (**research support**)

Appendix D then identifies several general monitoring **site types** to meet the objectives:

- Sites located to determine the **highest concentrations** in the area covered by the network
- **Population oriented** sites to measure typical concentrations in areas of high population density
- **Source impact** sites to determine the impact of significant sources or source categories on air quality

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- **General/background sites** determine background concentration levels
- **Regional transport sites** located to determine the extent of regional pollutant transport among populated areas and in support of secondary standards
- Sites located to measure air pollution impacts on visibility, vegetation damage, or other **welfare-related** impacts

Appendix D also identifies several scales of spatial representativeness, described in terms of physical dimensions of the air parcel or zone where air quality is expected to be reasonably consistent around the monitor. The monitor thus represents that area, not just the point of the monitor. The **spatial scales** are:

- **Microscale**: an area ranging from several meters up to about 100 meters
- **Middle scale**: an area covering between about 100 meters to 0.5 kilometers
- **Neighborhood scale**: covering an area between 0.5 and 4.0 kilometers in range
- **Urban scale**: covering an area of city-like dimensions, from about 4 to 50 kilometers
- **Regional scale**: covering a rural area of reasonably homogeneous geography without large sources, extending from tens to hundreds of kilometers
- **National and global scales**: representing concentrations characterizing the nation and the globe as a whole

New monitoring stations and new monitors must meet EPA siting criteria. A particular site might be appropriate for one or more pollutants. Some sites might be appropriate for all air pollutant monitoring, while other sites might only be appropriate for a particular pollutant. The District balances a wide range of pollutant siting criteria, spatial scales, monitoring objectives, and practical concerns as it plans and operates its monitoring network. Table 4 summarizes all the ambient air monitoring sites in the San Joaquin Valley Air Basin.

Table 4 Ambient Air Monitoring Sites in the San Joaquin Valley Air Basin (Summary)

As of June 1, 2011

MSA, County	Site Name	Address	Parameters Monitored
Fresno, Fresno	Clovis-Villa	908 N. Villa Ave., Clovis, CA 93612	Ozone, PM10 FRM, PM2.5 BAM/FEM, CO, NO2, NMHC, NMOC (PAMS), wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation
	Fresno-Drummond	4706 E. Drummond St., Fresno, CA 93725	Ozone, PM10 FRM, CO, NO2, wind speed, wind direction, outdoor temperature, barometric pressure
	Fresno-First	3425 N. First St. Fresno CA 93726	Ozone, PM10 FRM, PM10 BAM, PM2.5 FRM, PM2.5 BAM, CO, NO2, SO2, toxics, wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure
	Fresno-Pacific	1716 Winery, Fresno, CA 93726	PM2.5 FRM
	Fresno-Sky Park	4508 Chennault Ave. Fresno, CA 93722	Ozone, CO, NO2, wind speed, wind direction, outdoor temperature
	Huron	16875 4th St., Huron, CA 93234	PM2.5 BAM, barometric pressure
	Parlier	9240 S. Riverbend Ave., Parlier, CA 93648	Ozone, NO2, NMOC (PAMS), NMHC, wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation
	Tranquility	32650 W. Adams, Tranquility, CA 93668	Ozone, PM2.5 BAM FEM, wind speed, wind direction, outdoor temperature, barometric pressure

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MSA, County	Site Name	Address	Parameters Monitored
Bakersfield, Kern	Arvin-Di Giorgio	19405 Buena Vista Blvd, Arvin, CA 93203	Ozone, outdoor temperature
	Bakersfield-Planz	401 E. Planz Rd., Bakersfield CA 93307	PM2.5 FRM
	Bakersfield-California	5558 California Ave., Bakersfield, CA 93309	Ozone, PM10 FRM, PM10 BAM/FEM (temporarily operated by the SJVAPCD), PM2.5 FRM, PM2.5 BAM/FEM, NO2, toxics, Cr^{6+}, wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation
	Edison	Johnson Farm-Shed Rd. Edison, CA 93320	Ozone, NO2, wind speed, wind direction, outdoor temperature
	Lebec	Beantrap Road (no #), Lebec, CA 91350	PM2.5 BAM, wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation
	Maricopa	755 Stanislaus St., Maricopa, CA 93352	Ozone, wind speed, wind direction, outdoor temperature, barometric pressure
	Oildale	3311 Manor St, Oildale, CA 93308	Ozone, PM10 FRM, wind speed, wind direction, outdoor temperature
	Shafter	578 Walker St, Shafter, CA 93263	Ozone, NO2, NMOC (PAMS), NMHC, wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation
Hanford – Corcoran, Kings	Corcoran-Patterson	1520 Patterson Ave, Corcoran, CA 93212	PM10 FRM, PM10 TEOM, PM2.5 FRM, PM2.5 BAM/FEM, wind speed, wind direction, outdoor temperature, barometric pressure
	Hanford-Irwin	807 S. Irwin St, Hanford, CA 93230	Ozone, PM10 FRM, PM2.5 BAM/FEM, NO2, wind speed, wind direction, outdoor temperature, barometric pressure
	Santa Rosa Rancheria	17225 Jersey Ave., Lemoore, CA 93245	Ozone, PM10, meteorology

MSA, County	Site Name	Address	Parameters Monitored
Madera, Madera	Madera-City	28261 Avenue 14, Madera, CA 93638	Ozone, PM10 TEOM, PM2.5 BAM/FEM, wind speed, wind direction, outdoor temperature, barometric pressure, relative humidity, solar radiation
	Madera-Pump Yard	Av 8 and Road 29 1/2, Madera, CA 93637	Ozone, NO2, NMOC (PAMS), NMHC, wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation
Merced, Merced	Merced-Coffee	385 S. Coffee St., Merced, CA 95340	Ozone, PM2.5 BAM/FEM, NO2, wind speed, wind direction, outdoor temperature, barometric pressure
	Merced-M Street	2334 M Street, Merced, CA 95340	PM10 FRM, PM2.5 FRM
Stockton, San Joaquin	Stockton-Hazelton	1593 E. Hazelton St., Stockton, CA 95205	Ozone, PM10 FRM, PM2.5 FRM, PM2.5 BAM, CO, NO2, toxics, wind speed, wind direction, outdoor temperature, relative humidity
	Stockton-Wagner/Holt	8778 Brattle Pl., Stockton, CA 95209	PM10 FRM
	Manteca	530 Fishback Rd., Manteca, CA 95337	PM2.5 BAM/FEM, PM10 (TEOM), wind speed, wind direction, outdoor temperature, barometric pressure
	Tracy-Airport	5749 S. Tracy Blvd., Tracy, CA 95376	Ozone, PM10 TEOM, PM2.5 BAM, NO2, wind speed, wind direction, outdoor temperature, barometric pressure, radio acoustic sounding system (RASS)
Modesto, Stanislaus	Modesto-14th Street	814 14th Street, Modesto, CA 95354	Ozone, PM10 FRM, PM2.5 FRM, PM2.5 BAM, CO, wind speed, wind direction, outdoor temperature, barometric pressure
	Turlock	1034 S. Minaret St., Turlock, CA 95380	Ozone, PM10 FRM, PM2.5 BAM FEM, CO, NO2, wind speed, wind direction, outdoor temperature, barometric pressure

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MSA, County	Site Name	Address	Parameters Monitored
Visalia – Porterville, Tulare	Porterville	1839 S. Newcomb St., Porterville, CA 93257	Ozone, PM2.5 BAM, wind speed, wind direction, outdoor temperature, barometric pressure
	Sequoia-Ash Mountain	Ash Mountain, Sequoia National Park CA	Ozone, PM2.5 FRM, PM2.5 BAM, wind speed, wind direction, outdoor temperature, relative humidity, solar radiation
	Sequoia-Lower Kaweah	Lower Kaweah Campground, Sequoia National Park, CA	Ozone, wind speed, wind direction, outdoor temperature, relative humidity, solar radiation
	Visalia-Airport	Airport, Visalia, CA 93291	wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation, radio acoustic sounding system (RASS)
	Visalia-Church	310 N. Church St., Visalia, CA 93291	Ozone, PM10 FRM, PM2.5 FRM, PM2.5 BAM, NO2, wind speed, wind direction, outdoor temperature, barometric pressure

Ozone

Ozone is formed when its precursors (oxides of nitrogen (NOx) and volatile organic compounds (VOC)) chemically react in the presence of sunlight. The Valley's topography, low precipitation levels, high temperatures, subsidence inversions, and light winds are conducive to elevated ozone levels. Winds (at ground level or at higher altitudes) transport pollutants from other basins into the Valley, within the Valley to areas downwind, and from the Valley into other regions.

As shown in Table 5, the Valley's ozone network meets the monitoring requirements as listed in Table D-2 of Appendix D to Part 58. Ozone monitoring site requirements are based on MSA population (see Table 3) and design values (see Table 6). Sites are intended to represent population exposures and maximum concentrations so most ozone monitors are representative of neighborhood and regional scales (see Table 7). The Valley's SLAMS ozone monitors are continuous analyzers that detect ozone through ultraviolet absorption. As continuous devices, these monitors meet the "Timely/Public" objective, providing District staff with the data used in AQI forecasting and reporting. The Valley's ozone monitoring sites are shown in Table 7.

Table 5 SLAMS Minimum Ozone Monitoring Requirements
(Table D-2 of Appendix D to Part 58)

MSA population, based on latest available census figures	Number of monitors required if:	
	Most recent 3-year design value concentrations ≥85% of any ozone NAAQS	Most recent 3-year design value concentrations <85% of any ozone NAAQS
> 10 million	4	2
4 – 10 million	3	1
350,000 – < 4 million	2	1
50,000 – < 350,000	1	0

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Table 6 Ozone Requirements for the San Joaquin Valley

Metropolitan Statistical Area (MSA)	2009 Population	Highest 2006-2008 Ozone Design Value in MSA (ppb)[1]	≥85% of 2008 ozone NAAQS (75 ppb)[1]	Number of monitors required (Table 5)	Number of active SLAMS ozone monitor sites
Bakersfield	827,173[2]	105	Yes	2	6[2]
Fresno	942,298	100	Yes	2	6
Hanford-Corcoran	154,743	91	Yes	1	1
Madera	152,331	84	Yes	1	2
Merced	256,450	90	Yes	1	1
Modesto	526,383	89	Yes	2	2
Stockton	689,480	83	Yes	2	2
Visalia - Porterville	441,481	103	Yes	2	2

[1] These data are preliminary. Air quality data may include data influenced by exceptional events and/or data completeness and substitution requirements.
[2] The population listed for Bakersfield here reflects the population for all of Kern County, not just the Valley portion. Air monitors in the Eastern Kern Air District would count towards the monitors required for the Bakersfield MSA. However, the "Number of active ozone monitors" listed here includes those in the San Joaquin Valley Air Basin only.

Table 7a San Joaquin Valley Ozone Monitors (SLAMS)
As of June 1, 2011

MSA	County	Site	Scale	Site Type	Monitoring Objective
Fresno	Fresno	Clovis–Villa	Neighborhood	Population	1, 2, 3
		Fresno–Drummond	Neighborhood	Population, Regional transport	
		Fresno–First	Neighborhood	Population	
		Fresno-- Sky Park	Neighborhood	Population, Regional transport	
		Parlier	Neighborhood	High Concentration, Regional transport	

San Joaquin Valley Ozone Monitors (SLAMS)

MSA	County	Site	Scale	Site Type	Monitoring Objective
Bakersfield	Kern	Arvin-Di Giorgio	Neighborhood	High Concentration, Regional transport	1, 2, 3
		Bakersfield-California	Neighborhood	Population	
		Edison	Neighborhood	High concentration, Regional transport	
		Maricopa	Neighborhood	Regional transport	
		Oildale	Neighborhood	Regional transport	
		Shafter	Neighborhood	General/background	
MSA	County	Site	Scale	Site Type	Monitoring Objective
Hanford-Corcoran	Kings	Hanford-Irwin[1]	Neighborhood	Population	1, 2, 3
MSA	County	Site	Scale	Site Type	Monitoring Objective
Madera	Madera	Madera–Pump Yard	Neighborhood	General/background	1, 2, 3
		Madera- City	Neighborhood	Population	
MSA	County	Site	Scale	Site Type	Monitoring Objective
Merced	Merced	Merced–Coffee	Neighborhood	Population	1, 2, 3
MSA	County	Site	Scale	Site Type	Monitoring Objective
Stockton	San Joaquin	Stockton–Hazelton	Neighborhood	Population	1, 2, 3
		Tracy--Airport	Neighborhood	Regional transport	
MSA	County	Site	Scale	Site Type	Monitoring Objective
Modesto	Stanislaus	Modesto–14th Street	Neighborhood	Population	1, 2, 3
		Turlock	Neighborhood	Population	

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San Joaquin Valley Ozone Monitors (SLAMS)

MSA	County	Site	Scale	Site Type	Monitoring Objective
Visalia - Porterville	Tulare	Visalia–Church	Neighborhood	Population	1, 2, 3
		Porterville	Neighborhood	Population	

1 – Standards/Strategy 2 – Research Support 3 – Timely/Public

[1]Shutdown of the Corcoran-Patterson ozone monitor occurred in November 2009. The monitor was reinstalled at the reconstructed Hanford-Irwin monitoring site in February 2010. During the months in between, the monitor was serviced, calibrated and tested.

Table 7b San Joaquin Valley Ozone Monitors (SPM)
As of June 1, 2011

MSA	County	Site	Scale	Site Type	Monitoring Objective
Fresno	Fresno	Tranquillity [1]	Urban Scale	Population	3
Hanford-Corcoran	Kings	Santa Rosa Rancheria [2]	Tribal monitor		
Visalia - Porterville	Tulare	Sequoia -Ash Mountain [1]	Regional	Regional transport	3
		Sequoia -Lower Kaweah [1]	Regional	Regional transport	3

3 – Research Support Timely/Public

[1] These SPMs can be used for Regulatory purposes.
[2] The status of this Tribal monitor is not known.

PAMS

The monitoring objective of Photochemical Assessment Monitoring Stations is research support. Federal regulations (Clean Air Act Section 182 and 40 CFR 58) require serious, severe, and extreme ozone nonattainment areas to have PAMS sites to take speciated measurements of ozone precursors and allow for better understanding of the effect of precursors, control measures, and photochemistry on ozone formation. PAMS sites measure ozone, NOx, speciated VOC (NMOC and NMHC), CO, and meteorology concurrently.

There are four classifications of PAMS sites:

- Type 1: Background sites upwind of urban areas, where ozone concentrations are presumed not to be influenced by nearby urban emissions
- Type 2: Maximum ozone precursor emissions sites, typically located in an urban center, where emissions strengths are the greatest
- Type 3: Maximum ozone concentration sites, intended to show the highest ozone concentrations

- Type 4: Extreme downwind monitoring sites, which are expected to capture concentrations of transported pollutants but have lower ozone concentrations due to a lack of more local emissions sources (currently not required for the SJV)

As shown in Table 8, the District has a total of six PAMS sites configured as two small networks, one centered around Fresno and one around Bakersfield. The PAMS program operates from June 1 through August 31 every year on a 1 in 3 day sampling schedule. At least four, three-hour integrated samples are collected each sampling day, referred to as a "Trend Day." However, additional samples are collected on "Episode Days," days that are forecasted to have high ozone concentrations. The goal is to sample on three to five multi-day episodes in an ozone season.

Table 8 SJV PAMS sites

As of June 1, 2011

Fresno MSA	Type 1: Upwind/Background site	Madera-Pump Yard
	Type 2: Maximum precursor emissions	Clovis-Villa
	Type 3: Maximum ozone concentrations	Parlier
Bakersfield MSA	Type 1: Upwind/Background site	Shafter
	Type 2: Maximum precursor emissions	Replacement site under construction[1]
	Type 3: Maximum ozone concentrations	Arvin[2]

[1] Bakersfield–Golden was shut down for relocation in December 2009. The District plans to have the replacement site, Bakersfield-Muni, operational in October 2011.
Bakersfield-Muni, will begin reporting data in October 2011. See page 39 for more information.
[2] Arvin-Bear Mountain Blvd. site closed. CARB plans to construct the Arvin-Di Giorgio site for PAMS and is finalizing details before the project begins.

Particulate Matter (PM)

Particulate matter (PM) can be emitted directly as primary PM, and it can form in the atmosphere through chemical reactions of precursors to form secondary PM. Primary PM can be emitted either naturally (windblown dust and wildfires) or from human (anthropogenic) activity: agricultural operations, industrial processes, combustion of wood and fossil fuels, construction and demolition activities, and entrainment of road dust. The resulting ambient PM mixture includes aerosols consisting of components of nitrates, sulfates, elemental Carbons, organic Carbon compounds, acid aerosols, trace metals, geological materials, etc. Under current regulations, particulate matter (PM) is differentiated by particle size as opposed to composition. Federal air quality standards differentiate two size fractions of PM: PM that is 10 microns or less in diameter (PM10) and the smaller subset that is 2.5 microns or less in diameter (PM2.5).

The Valley's comprehensive particulate field study is the California Regional Particulate Air Quality Study (CRPAQS). CRPAQS monitoring occurred between December 1999

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and February 2001 through the use of over 70 SPM PM10 sites and 50 SPM PM2.5 sites. Researchers have used CRPAQS measurements for database development, analysis, and modeling. A final report synthesizing all CRPAQS analysis and updating the conceptual understanding of particulates is expected to be completed in 2012. In addition to CRPAQS, other studies assess particulate emissions from agricultural operations, unpaved and paved road particulate emissions, and particulate formation in fog episodes. The design of the Valley's current PM network is an outgrowth of the results and analysis from CRPAQS.

The Valley's surrounding mountain ranges contribute to PM retention. Over the summer, long periods with little or no rainfall result in extreme drying of soils, increasing emissions from traffic movement and mechanical disturbance. Winter brings rainfall, but also creates an atmospheric environment that forms more secondary particulates. The Valley's frequent and severe temperature inversions block the normal rising air and trap particulates close to the ground, especially during the winter months.

The Valley's PM monitoring network includes Federal Reference Method (FRM) monitors, Federal Equivalent Method (FEM) monitors, and Non-FRM/FEM monitors. FRM monitors for PM are manual filter-based monitors; samples are collected on either a one-in-six day sampling schedule or a one-in-three day sampling schedule. FRM monitors meet the "Standards/Strategy" objective, helping agencies determine the Valley's attainment status and helping shape the strategies for reaching or maintaining PM attainment. FRM filters can also be analyzed for PM speciation, so they are sometimes used for "Research Support" objectives as well.

Beta Attenuation Monitors (BAM) and Tapered Element Oscillating Microbalance (TEOM) monitors are continuous, near real-time monitors that provide the hourly PM data used in AQI and Smoke Management System (SMS) burn allocations. Data from these monitors are also used in hazard reduction burning allocations and in residential wood burning declarations. As such, these monitors help meet the "Timely/Public" objective.
Not all real-time monitors meet the "Standards/Strategy" objective because they do not meet the rigorous engineering design, quality assurance, and quality control standards necessary for comparison to the NAAQS. An FEM monitor is often a real-time monitor that has been designated by EPA as being equivalent to FRM monitors. FEMs satisfy both the "Standards/Strategy" objective and the "Timely/Public" objective. All of the Valley's TEOMs are FEMs, and some of the Valley's BAMs are FEMs.

PM10 Monitors in the Valley

The San Joaquin Valley has been redesignated to attainment for PM10, and the District's *2007 PM10 Maintenance Plan* and ongoing PM10 monitoring will assure continued compliance with federal standards. The minimum number of PM10 sites required per MSA is shown in Table 9 and the PM10 monitoring requirements for the San Joaquin Valley are shown in Table 10. Tables 11a, 11b, and 12 summarize the Valley's SLAMS and SPM PM10 monitoring stations, respectively.

Table 9 Minimum PM10 Monitoring Requirements
(Table D-4 of Appendix D to Part 58)
(A range is presented, and the actual number of stations per area is jointly determined by EPA, the State, and the local agency)

Population category	High concentration: Ambient concentrations exceed the PM10 NAAQS by 20% or more (≥180 µg/m³)	Medium concentration: Ambient concentrations exceed 80% of the PM10 NAAQS (>120 µg/m³)	Low concentration: Ambient concentrations less than 80% of the PM10 NAAQS (< 120 µg/m³), or no design value
> 1,000,000	6 – 10	4 – 8	2 – 4
500,000 – 1,000,000	4 – 8	2 – 4	1 – 2
250,000 – 500,000	3 – 4	1 – 2	0 – 1
100,000 – 250,000	1 – 2	0 – 1	0

Table 10 PM10 Monitoring requirements for the Valley

Metropolitan Statistical Area (MSA)	County	2009 Population	PM10			
			24-hour 2009 Highest concentration in MSA (µg/m³) [2]	Monitors required [3]	Actual # of SLAMS sites in MSA	Actual # of SPM sites in MSA
Bakersfield	Kern	827,173 [1]	138	2 – 4	2 [4]	
Fresno	Fresno	942,298	84	1 – 2	3	1
Hanford-Corcoran	Kings	154,743	118	0 – 1	2	2
Madera	Madera	152,331	-	1	1	1
Merced	Merced	256,450	64	0 – 1	1	1
Modesto	Stanislaus	526,383	65	1 – 2	2	
Stockton	San Joaquin	689,480	61	1 – 2	2	1
Visalia - Porterville	Tulare	441,481	92	0 - 1	1	

[1] The population listed for Bakersfield here reflects the population for all of Kern County, not just the Valley portion. Air monitors in the Eastern Kern Air District would count towards the monitors required for the Bakersfield MSA. However, the "Actual # of monitors in MSA" listed here includes those in the San Joaquin Valley Air Basin only.
[2] Max PM10 Data does not include any pending Exceptional Events.
[3] PM10 data does not include collocated monitors.
[4] One temporary PM10 monitor.

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Table 11a San Joaquin Valley PM10 SLAMS monitor information

Site Name	Scale	Site Type	Monitoring Objective	Sampling Schedule
MSA/CBSA: Fresno **County:** Fresno				
Fresno-Drummond	Neighborhood	Population	Standards/Strategy Research Support	1:6
Fresno-First	Neighborhood	High Concentration	Standards/Strategy Research Support	1:6
			Research Support Timely/Public	1-Hour
Clovis-Villa	Neighborhood	Population	Standards/Strategy Research Support	1:6
MSA/CBSA: Bakersfield **County:** Kern				
Oildale	Neighborhood	Population	Standards/Strategy Research Support	1:6
Bakersfield-California	Neighborhood	Population	Standards/Strategy Research Support	1:6
				1-Hour [1]
MSA/CBSA: Hanford – Corcoran **County:** Kings				
Hanford-Irwin	Neighborhood	Population	Standards/Strategy Research Support	1:6
Corcoran-Patterson	Neighborhood	High Concentration	Standards/Strategy Research Support	1:3
			Research Support Timely/Public	1-Hour
MSA/CBSA: Madera **County:** Madera				
Madera-City	Neighborhood	Population	Research Support Timely/Public	1-Hour
MSA/CBSA: Merced **County:** Merced				
Merced-M Street	Neighborhood	Representative concentration	Standards/Strategy Research Support	1:6

San Joaquin Valley PM10 SLAMS monitor information

Site Name	Scale	Site Type	Monitoring Objective	Sampling Schedule
MSA/CBSA: Stockton **County:** San Joaquin				
Manteca	Neighborhood	Population	Standards/Strategy Research Support	1-Hour
Stockton-Hazelton	Neighborhood	Population	Standards/Strategy Research Support	1:6
Stockton-Wagner/Holt	Neighborhood	Population	Standards/Strategy Research Support	1:6
Tracy-Airport	Neighborhood	Regional transport	Research Support Timely/Public	1-Hour
MSA/CBSA: Modesto **County:** Stanislaus				
Modesto-14th Street	Neighborhood	Population	Standards/Strategy Research Support	1:6
Turlock	Neighborhood	Population	Standards/Strategy Research Support	1:6
MSA/CBSA: Visalia – Porterville **County:** Tulare				
Visalia-Church	Neighborhood	Population	Standards/Strategy Research Support	1:6

[1] Temporary monitor

Table 11b San Joaquin Valley PM10 SPM monitor information

Site Name	Scale	Site Type	Monitoring Objective	Sampling Schedule
MSA/CBSA: Hanford – Corcoran **County:** Kings				
Hanford-Irwin [1]	Neighborhood	Population	Research Support Timely/Public	1-Hour

[1] This is a new SPM site. Data can be used for Regulatory purposes after the site has been operational for two years.

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Table 12 San Joaquin Valley PM10 monitor types

MSA/CBSA: Fresno County: Fresno	Instrument Type		Monitor Type	
	FRM	FEM	SLAMS	SPM
Site Name				
Clovis-Villa	1		1	
Fresno-Drummond	1		1	
Fresno-First	1		1	
		1		1
Total SLAMS/SPM			3	1

MSA/CBSA: Bakersfield County: Kern	Instrument Type		Monitor Type	
	FRM	FEM	SLAMS	SPM
Site Name				
Bakersfield-California	1		1	
		1[1]		1
Oildale	1		1	
Total SLAMS/SPM			2	1

MSA/CBSA: Hanford – Corcoran County: Kings	Instrument Type		Monitor Type	
	FRM	FEM	SLAMS	SPM
Site Name				
Corcoran-Patterson	1[2]		1	
		1		1
Hanford-Irwin	1		1	
		1		1
Santa Rosa Rancheria[3]	Tribal Monitor			
Total SLAMS/SPM			2	2

MSA/CBSA: Madera County: Madera	Instrument Type		Monitor Type	
	FRM	FEM	SLAMS	SPM
Site Name				
Madera-City		1	1	
Total SLAMS/SPM			1	

MSA/CBSA: Merced County: Merced	Instrument Type		Monitor Type	
	FRM	FEM	SLAMS	SPM
Site Name				
Merced-M Street	1		1	
Total SLAMS/SPM			1	

San Joaquin Valley PM10 monitor types

MSA/CBSA: Stockton County: San Joaquin	Instrument Type		Monitor Type	
	FRM	FEM	SLAMS	SPM
Site Name				
Manteca		1		1
Stockton-Hazelton	1		1	
Stockton-Wagner/Holt	1		1	
Tracy-Airport		1		1
Total SLAMS/SPM			2	2

MSA/CBSA: Modesto County: Stanislaus	Instrument Type		Monitor Type	
	FRM	FEM	SLAMS	SPM
Site Name				
Modesto-14th Street	1		1	
Turlock	1		1	
Total SLAMS/SPM			2	

MSA/CBSA: Visalia – Porterville County: Tulare	Instrument Type		Monitor Type	
	FRM	FEM	SLAMS	SPM
Site Name				
Visalia-Church	1		1	
Total SLAMS/SPM			1	

[1] Temporary monitor [2] QA Collocated monitors [3] Status of this Tribal monitor is not known.

PM2.5 Monitors in the Valley

The San Joaquin Valley is designated nonattainment for PM2.5. Table 13 shows the minimum number of PM2.5 sites required per MSA. The minimum number of PM2.5 sites required per MSA is shown in Table 13 and the PM2.5 monitoring requirements for the San Joaquin Valley are shown in Table 14. Tables 15a, 15b, and 16 summarize the Valley's SLAMS and SPM PM2.5 monitoring stations, respectively.

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Table 13 Minimum PM2.5 Monitoring Requirements

MSA population	Most recent 3-year design value ≥85% of any PM2.5 NAAQS (equivalent to an annual design value ≥ 12.8 µg/m³ or a 24-hour design value ≥ 29.8 µg/m³)	Most recent 3-year design value <85% of any PM2.5 NAAQS (equivalent to an annual design value < 12.8 µg/m³ or a 24-hour design value < 29.8 µg/m³), or no design value
> 1,000,000	3	2
500,000 – 1,000,000	2	1
50,000 - < 500,000	1	0

Table 14 PM2.5 Monitoring requirements for the Valley

Metropolitan Statistical Area (MSA)	County	2009 Population	PM2.5				
			24-hour 2007-2009 Design Value in MSA (µg/m³) [2]	Annual 2007-2009 Design Value in MSA (µg/m³)	Monitors required	Actual # of SLAMS sites in MSA	Actual # of SPM sites in MSA
Bakersfield	Kern	827,173[1]	70	22.6	2	2	2
Fresno	Fresno	942,298	60	17.1	2	3	3
Hanford-Corcoran	Kings	154,743	53	17.3	1	1	1
Madera	Madera	152,331	-	-	1	1	
Merced	Merced	256,450	51	14.5	1	1	1
Modesto	Stanislaus	526,383	60	23.2	2	2	
Stockton	San Joaquin	689,480	50	12.9	2	2	1
Visalia-Porterville	Tulare	441,481	59	18.8	1	1	3

[1] The population listed for Bakersfield here reflects the population for all of Kern County, not just the Valley portion. Air monitors in the Eastern Kern Air District would count towards the monitors required for the Bakersfield MSA. However, the "Actual # of monitors in MSA" listed here includes those in the San Joaquin Valley Air Basin only.
[2] These data are preliminary. Air quality data may include data influenced by exceptional events and/or data completeness and substitution requirements.

Table 15a San Joaquin Valley PM2.5 SLAMS monitor information

Site Name	Scale	Site Type	Monitoring Objective	Sampling Schedule
MSA/CBSA: Fresno **County:** Fresno				
Fresno-Pacific	Neighborhood	Population	Standards/Strategy Research Support	Seasonal
Fresno-First	Neighborhood	High Concentration	Research Support Timely/Public	1-Hour
			Standards/Strategy Research Support	Daily
Clovis-Villa	Neighborhood	Population	Research Support Timely/Public	1-Hour
MSA/CBSA: Bakersfield **County:** Kern				
Bakersfield-California	Neighborhood	Population	Research Support Timely/Public	1-Hour
			Standards/Strategy	Daily
Bakersfield-Planz	Neighborhood	Population	Standards/Strategy	1:3
MSA/CBSA: Hanford – Corcoran **County:** Kings				
Corcoran-Patterson	Neighborhood	High Concentration	Standards/Strategy Research Support	Seasonal
			Research Support Timely/Public	1-Hour
MSA/CBSA: Merced **County:** Merced				
Merced-M Street	Neighborhood	Representative concentration	Standards/Strategy Research Support	1:3

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San Joaquin Valley PM2.5 SLAMS monitor information

Site Name	Scale	Site Type	Monitoring Objective	Sampling Schedule
MSA/CBSA: Stockton **County:** San Joaquin				
Manteca	Neighborhood	Population	Standards/Strategy Research Support	1-Hour
Stockton–Hazelton	Neighborhood	Population	Standards/Strategy Research Support	1:3 / 1-Hour [1]
			Research Support Timely/Public	1-Hour
MSA/CBSA: Modesto **County:** Stanislaus				
Modesto–14th Street	Neighborhood	Population	Standards/Strategy Research Support	1:3 / 1-Hour [1]
			Research Support Timely/Public	1-Hour
Turlock	Neighborhood	Population	Research Support Timely/Public	1-Hour
MSA/CBSA: Visalia – Porterville **County:** Tulare				
Visalia–Church	Neighborhood	Population	Standards/Strategy Research Support	1:3
			Research Support Timely/Public	1-Hour

[1] An FRM was replaced with an FEM

Table 15b San Joaquin Valley PM2.5 SPM monitor information

Site Name	Scale	Site Type	Monitoring Objective	Sampling Schedule
MSA/CBSA: Fresno **County:** Fresno				
Huron	Neighborhood	Population	Research Support Timely/Public	1-Hour
Tranquillity	Urban	Urban	Research Support Timely/Public	1-Hour
MSA/CBSA: Bakersfield **County:** Kern				
Lebec	Neighborhood	Population	Research Support Timely/Public	1-Hour
MSA/CBSA: Hanford – Corcoran **County:** Kings				
Hanford-Irwin	Neighborhood	Population	Research Support Timely/Public	1-Hour
MSA/CBSA: Madera **County:** Madera				
Madera-City	Neighborhood	Population	Research Support Timely/Public	1-Hour
MSA/CBSA: Merced **County:** Merced				
Merced-Coffee	Neighborhood	Population	Research Support Timely/Public	1-Hour

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San Joaquin Valley PM2.5 SPM monitor information

MSA/CBSA: Stockton County: San Joaquin				
Site Name	**Scale**	**Site Type**	**Monitoring Objective**	**Sampling Schedule**
Tracy-Airport	Neighborhood	Regional transport	Research Support Timely/Public	1-Hour
MSA/CBSA: Visalia – Porterville County: Tulare				
Site Name	**Scale**	**Site Type**	**Monitoring Objective**	**Sampling Schedule**
Sequoia-Ash Mountain	Regional	Regional transport	Research Support Timely/Public	1-Hour
Porterville	Neighborhood	Population	Research Support Timely/Public	1-Hour

Table 16 San Joaquin Valley PM2.5 monitor types

MSA/CBSA: Fresno County: Fresno	Instrument Type			Monitor Type	
	FRM	FEM	Non-FEM	SLAMS	SPM
Site Name					
Clovis-Villa		1		1	
Fresno-First	1			1	
			1		1
Fresno-Pacific	1			1	
Huron			1		1
Tranquillity		1			1
Total SLAMS/SPM				3	3
MSA/CBSA: Bakersfield County: Kern	**Instrument Type**			**Monitor Type**	
	FRM	**FEM**	**Non-FEM**	**SLAMS**	**SPM**
Site Name					
Bakersfield-Planz	1			1	
Bakersfield-California	1			1	
			1		1
Lebec			1		1
Total SLAMS/SPM				2	1

San Joaquin Valley PM2.5 monitor types

MSA/CBSA: Hanford – Corcoran County: Kings	Instrument Type			Monitor Type	
	FRM	FEM	Non-FEM	SLAMS	SPM
Site Name					
Corcoran-Patterson	1			1	
		1			
Hanford-Irwin		1			1
Total SLAMS/SPM				1	1
MSA/CBSA: Madera County: Madera	**Instrument Type**			**Monitor Type**	
	FRM	**FEM**	**Non-FEM**	**SLAMS**	**SPM**
Site Name					
Madera-City		1		1	
Total SLAMS/SPM				1	
MSA/CBSA: Merced County: Merced	**Instrument Type**			**Monitor Type**	
	FRM	**FEM**	**Non-FEM**	**SLAMS**	**SPM**
Site Name					
Merced-Coffee		1			1
Merced-M Street	1			1	
Total SLAMS/SPM				1	1
MSA/CBSA: Stockton County: San Joaquin	**Instrument Type**			**Monitor Type**	
	FRM	**FEM**	**Non-FEM**	**SLAMS**	**SPM**
Site Name					
Manteca		1		1	
Stockton-Hazelton [1]		1		1	
Tracy-Airport			1		1
Total SLAMS/SPM				2	1
MSA/CBSA: Modesto County: Stanislaus	**Instrument Type**			**Monitor Type**	
	FRM	**FEM**	**Non-FEM**	**SLAMS**	**SPM**
Site Name					
Modesto-14th Street [1]		1		1	
Turlock		1		1	
Total SLAMS/SPM				2	

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San Joaquin Valley PM2.5 monitor types

MSA/CBSA: Visalia – Porterville County: Tulare	Instrument Type			Monitor Type	
	FRM	FEM	Non-FEM	SLAMS	SPM
Site Name					
Porterville [2]		1			1
Sequoia-Ash Mountain			1		1
Visalia-Church	1			1	
			1		1
Total SLAMS/SPM				1	3

[1] An FRM was replaced with an FEM.
[2] Data can be used for Regulatory purposes after the site has been operational for two years.

PM Collocation Requirements
(40 CFR 58 Appendix A, Sections 3.2.5 and 3.2.6)

The District's Particulate Matter collocation requirements are met by the "Primary Quality Assurance Organization" (PQAO). ARB is the PQAO for the Valley as well as several other air basins. ARB has requested that the District to collocate one PM-10 monitor. The Corcoran site serves this purpose. The AIRS codes for the collocated pair are: 06-031-0004-88102-1 (this is the primary monitor) and 06-031-0003-88102-3 (this is the collocated monitor).

Public Review of Changes to the PM2.5 Monitoring Network

Public input is required whenever the District proposes to move an existing violating PM2.5 monitor (40 CFR 58.10(c)). The District uses the annual Air Monitoring Network Plan to notify and seek public comment on any planned changes to the existing PM2.5 network. The public has 30 days to comment on the Monitoring Network Plan and any PM2.5 network changes. The plan is posted on the District website, and public notice is published in a newspaper of general circulation in each affected CBSA. The 2011 Monitoring Network Plan was posted for comment May 23, 2011, through June 21, 2011. No public comments were received.

In the event of unanticipated changes to the PM2.5 network that occur outside the Monitoring Network Plan process, the District will post public notice in Valley newspapers, post a document describing the proposed changes on its website, and seek public comment.

Carbon Monoxide

In the past, monitoring has shown that the Valley's Carbon monoxide (CO) concentrations have not exceeded the NAAQS for over a decade. As noted in Section

4.2 of Appendix D of 40 CFR Part 58, there are no minimum requirements of the number of Carbon Monoxide (CO) monitoring sites. The District continues CO monitoring to supplement related meteorological and criteria pollutant data. Table 17 summarizes the Valley's past CO monitoring sites.

Table 17 Carbon Monoxide Monitoring Stations in the San Joaquin Valley
As of June 1, 2011

Site Name	Sampling Frequency	Scale	Site Type	Objective
Clovis–Villa	Continuous	Neighborhood	Population	Standards/ Strategy
Fresno–Drummond	Continuous	Neighborhood	Population	Standards/ Strategy
Fresno–First	Continuous	Neighborhood	Population	Standards/ Strategy
Fresno–Sky Park	Continuous	Neighborhood	Population	Standards/ Strategy
Modesto–14th Street	Continuous	Neighborhood	Population	Standards/ Strategy
Stockton–Hazelton	Continuous	Neighborhood	Population	Standards/ Strategy
Turlock	Continuous	Neighborhood	Population	Standards/ Strategy

A proposed new CO rule (to issue a final rule on August 12, 2011), is proposing to retain the existing NAAQS for CO (the existing primary standards are 9 parts per million (ppm) measured over 8 hours, and 35 ppm measured over 1 hour). EPA is proposing to make changes to the ambient air monitoring requirements for CO, to include monitor placement near highly trafficked roads within urban populations of 1 million or more and to be collocated with Nitrogen dioxide (NO_2) monitors (as part of the January, 2010 revision to the NAAQS for NO_2). Moving an existing monitor to a new location is acceptable.

EPA is also proposing that EPA Regional Administrators would have the authority to require additional monitoring in case-by-case circumstances, such as in areas impacted by major stationary CO sources, in urban downtown areas or urban street canyons, or in areas adversely impacted by meteorological and/or topographical influences. EPA is proposing that the required CO monitors would be operating by January 1, 2013.

Nitrogen Dioxide

EPA strengthened the health-based NAAQS for NO_2, setting a new 1-hour NO_2 standard at the level of 100 parts per billion (ppb) effective April 12, 2010. The

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monitoring requirements for this new standard will be based upon population of an area as well as the annual average daily traffic (AADT) count. NO_2 monitors that are required under this new standard are to be operational by January 1, 2013. Table 18 summarizes the Valley's NO_2 monitoring stations.

Table 18 NO_2 Monitoring Stations in the San Joaquin Valley
As of June 1, 2011

Site Name	Sampling Frequency	Scale	Site Type	Objective
Bakersfield–California	Continuous	Neighborhood	Population	Standards/ Strategy,
Clovis–Villa	Continuous	Neighborhood	High Concentration	Standards/ Strategy, Research
Edison	Continuous	Neighborhood	Population	Standards/ Strategy
Fresno–Drummond	Continuous	Neighborhood	High Concentration	Standards/ Strategy
Fresno–First	Continuous	Neighborhood	Population	Standards/ Strategy
Fresno–Sky Park	Continuous	Neighborhood	Population	Standards/ Strategy
Hanford--Irwin	Continuous	Neighborhood	Population	Standards/ Strategy
Madera–Pump Yard	Continuous	Neighborhood	Population	Standards/ Strategy, Research
Merced–Coffee	Continuous	Neighborhood	Population	Standards/ Strategy
Parlier	Continuous	Neighborhood	Population	Standards/ Strategy, Research
Shafter	Continuous	Neighborhood	Population	Standards/ Strategy, Research
Stockton–Hazelton	Continuous	Neighborhood	Population	Standards/ Strategy
Tracy–Airport	Continuous	Neighborhood	Population	Standards/ Strategy
Turlock	Continuous	Neighborhood	Population	Standards/ Strategy
Visalia--Church	Continuous	Neighborhood	Population	Standards/ Strategy

As noted in Section 4.3 of Appendix D of 40 CFR Part 58, one microscale near-road NO_2 monitoring station is required in each CBSA with a population of 500,000 or more. Installation of four sites within the District is dependent upon securing funding from EPA. Existing Clean Air Act Section 105 funding is already fully allocated to operate the existing air monitoring network. Provided funding is secured, the District and CARB will collaborate in locating suitable sites for the four stations. One station will be installed in each of the following counties: San Joaquin, Stanislaus, Fresno, and the valley portion of Kern County. Near-road NO_2 monitoring stations shall be sited near major roads with high AADT counts where maximum hourly NO_2 concentrations are expected to occur.

Although the Valley does not exceed federal or state standards for NO_2, NOx reductions contribute to air quality improvement for both ozone and PM. A schedule to install equipment for measuring NO/NOy at the Arvin-Di Giorgio and Parlier monitoring sites is currently being determined.

Sulfur Dioxide

For the years of 2010 through 2012 Section 4.4 of Appendix D of 40 CFR Part 58 does not specify any minimum requirements for the number of SO_2 monitoring sites. Because the Valley does not exceed the federal standard for SO_2, there is just one SO_2 monitoring site in the Valley (shown in Table 19a). This monitor is operated by CARB and is part of the NCore Network.

Table 19a SO_2 Monitoring Station in the San Joaquin Valley
As of June 1, 2010

Site Name	Sampling Frequency	Scale	Site Type	Objective
Fresno-First	Continuous	Neighborhood	Population	Standards/ Strategy

EPA revised the SO_2 NAAQS and monitoring requirements in the Federal Register on June 22, 2010 (CFR, 40 CFR Part 58, Section 4.4). The rule became effective on August 23, 2010). The number of monitor requirements is based upon CBSA's most recently available census data multiplied with the total amount of SO_2 in tons per year emitted from the most recently available data from the National Emissions Inventory for each county, divided by one million, providing a Populations Weighted Emissions Index (PWEI) value in units of million persons-tons per year (Table 19b).

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Table 19b Populations Weighted Emissions Index for the San Joaquin Valley
As of June 1, 2011

County (CBSA)	Total County Population[1]	SO_2 Tons per Year[2]	PWEI
Fresno	942,298	458	432
Kern	827,173	2212	1,830
Kings	154,743	55	9
Madera	152,331	113	17
Merced	256,450	66	17
San Joaquin	689,480	1097	756
Stanislaus	526,383	312	164
Tulare	441,481	122	54

[1] Total County Population includes the entire county. Population data was from the most recently available data from the CA Department of Finance E-4 Population Estimates from Cities, Counties and the State, 2001-2009, with 2000 Benchmark. Estimates are for 1/1/2009.
[2] SO_2 Tons per Year includes the entire county. SO_2 data is from the most recent data available from the 2008 National Emissions Inventory for each county.

As per 40 CFR Part 58, Section 4.4, Appendix D any CBSA with a calculated value equal to or greater than 5,000, but less than 100,000, a minimum of one SO_2 monitor is required within that CBSA. There are no minimum requirements for the number of SO_2 monitoring sites in the District because the Valley does not exceed the federal standard for SO_2.

Lead

EPA revised the lead NAAQS and monitoring requirements in the Federal Register on November 12, 2008 (73 FR 66964 – 67062, codified in 40 CFR 58.10). The rule became effective on January 26, 2011 and requires monitoring agencies to install non-source oriented lead monitors at NCore sites by December 27, 2011, in CBSAs that exceed a population of 500,000. The only site meeting these criteria within the District is Fresno-1st which is operated by the California Air Resources Board. The EPA is also requiring source-oriented lead monitoring at areas with a threshold of 1.0 ton per year (tpy). The District has not identified any sources at the 1.0 tpy threshold, thus source-oriented monitoring is not required.

Toxics

Airborne toxic substances are monitored by the CARB at Bakersfield–California, Fresno--First, and Stockton–Hazelton. Periodic, 24-hour samples are analyzed for the following gases: benzene, Carbon tetrachloride, chloroform, ethylene dibromide, ethylene dichloride, methyl chloroform, methylene chloride, perchloroethylene, toluene,

trichloroethylene, and m-, p-, and o-xylene. The samples are also analyzed for the following particulate metals: arsenic and chromium-6. CARB's Integrated NMOC sampling program and the District's PAMS NMOC sampling program also identify and quantify several toxic hydrocarbon species.

Green House Gases

For the year 2010 CARB installed Picarro multi-gas analyzers (CO2, CH4, and water vapor) and a Teledyne-API 300 EU (CO) analyzer at the Madera-Pump Yard, Tranquillity, and Arvin sites. While the data will not be submitted to AQS at this time, the data will be used by CARB's Research Division. CARB plans to continue monitoring Green House Gases (GHG) at these sites in 2011.

NCore

EPA's October 2006 ambient air monitoring amendments established a requirement for National Core (NCore) multi-pollutant monitoring stations. An NCore plan was to be submitted to EPA, and NCore stations must be operational by January 1, 2011. EPA selected the Fresno-First Street air monitoring station (operated by ARB) as an NCore site.

ARB submitted an NCore plan to EPA in November 2009. Fresno--First already met NCore requirements for filter-based and continuous PM2.5, speciated PM2.5, ozone, and meteorology. ARB staff installed trace level CO, trace level SO_2, trace level NOy, and continuous PM-Coarse monitors at this site in December 2010. ARB staff also installed a gas dilution calibrator, a zero air generator, and digital data loggers to support NCore monitoring. In December 2011, ARB staff will install a TSP-lead sampler, completing all the pollutant monitoring requirements for the NCore program. All the newly installed instrumentation will be reporting data to EPA's AQS databases by the end of May 2011."

Meteorology

Data for a variety of meteorological variables are collected to aid various programs affected by weather. Such programs include forecasting air quality, exceptional events, long-term planning, and pollutant trend assessment. These activities help protect public health and have made the public and media more aware of air quality and what can be done to reduce air pollution. See Table 20 for the meteorological parameters measured in the Valley.

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Table 20 Meteorological Parameter Monitoring Stations in the San Joaquin Valley
As of June 1, 2011

Site	Wind Speed	Wind Direction	Outdoor Temperature	Relative Humidity	Barometric Pressure	Solar Radiation
Arvin–Di Giorgio			X			
Bakersfield–California	X	X	X	X	X	X
Clovis–Villa	X	X	X	X	X	X
Corcoran–Patterson	X	X	X		X	
Edison	X	X	X			
Fresno–Drummond	X	X	X		X	
Fresno–First	X	X	X	X	X	
Fresno–Sky Park	X	X	X			
Hanford–Irwin	X	X	X		X	
Huron					X	
Lebec	X	X	X		X	
Madera–City	X	X	X	X	X	X
Madera–Pump Yard	X	X	X	X	X	X
Manteca	X	X	X		X	
Maricopa	X	X	X		X	
Merced–Coffee	X	X	X			
Modesto–14th Street	X	X	X		X	
Oildale	X	X	X			
Parlier	X	X	X	X	X	X
Porterville	X	X	X		X	
Santa Rosa Rancheria	Unknown					
Sequoia–Ash Mountain	X	X	X	X		X
Sequoia–Lower Kaweah	X	X	X	X		X
Shafter	X	X	X	X	X	X
Stockton–Hazelton	X	X	X	X		
Tracy–Airport	X	X	X		X	
Tranquillity	X	X	X		X	
Turlock	X	X	X		X	
Visalia–Church	X	X	X		X	
Visalia–Airport	X	X	X	X	X	X

Summary of completed changes, January 2010 – July 2011

- The Arvin-Bear Mountain Blvd site operated by CARB had to be relocated due to an expired lease in 2010 so the Arvin-Di Giorgio monitoring site is intended to be the long-term replacement for the Arvin-Bear Mountain Blvd site. The Arvin-Di Giorgio site became operational in May 2010 and is operated by CARB. Parallel ozone monitoring was completed in November 2010 and the Arvin-Bear Mountain Blvd. site was then closed.

  The Arvin-Di Giorgio site is located 18 miles southeast of the Bakersfield, CA metropolitan area and is approximately 2 miles away from the old site. The purpose of the site is to monitor maximum ozone concentrations and transport from upwind urban areas. This site will also be a PAMS Type 3 site. The site also monitors NO_2, NMOC, NMHC, and meteorology and CARB plans to install methane/CO2 and trace CO analyzers for special purpose monitoring. In addition, a NOy monitor will be added to the Arvin-Di Giorgio air monitoring site to comply with the latest regulation for PAMS Type 3 sites.

- CARB installed Picarro multi-gas analyzers (CO2, CH4, and water vapor) and a Teledyne-API 300 EU (CO) analyzer at the Madera-Pump Yard, Tranquillity, and Arvin Di-Giorgio sites as part of its GHG monitoring program. While the data will not be submitted to AQS at this time, the data will be used by CARB's Research Division.

- A system-wide change that was made in 2010 was the addition of ammonia denuders to all of the NOx analyzers at all of the District sites than measure NOx.

- Anderson sampling instruments at the Fresno-Pacific, Merced-M Street, and Corcoran monitoring sites have been replaced with Partisol Units.

- Three new monitoring stations were installed and became operational in the District in 2010. The Manteca site monitors PM2.5, PM10, and meteorology, the Madera-City site monitors ozone, PM2.5, PM10, and meteorology, and the Porterville site monitors ozone, PM2.5, and meteorology.

- The Hanford monitoring station has been operational for many years and over time had become dilapidated and in need of repairs. The site underwent reconstruction in 2009 and was finished and resumed operations in February 2010.

Summary of planned changes, July 2011 – December 2011

The Valley air monitoring network is continually being improved. As one overall change, the District will be replacing filter-based PM monitors with continuous, real-time PM2.5 and real-time PM10 monitors in the future, particularly in rural areas. These monitors

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are more economically efficient than filter-based monitors and give the District more data for forecasting. Simultaneously, the District will be investigating to see how real-time data compares to filter-based data at sites with parallel monitoring.

The planned site-specific changes are described below.

Once funding is secured from EPA, the District and CARB will begin the process of finding locations for four microscale near-road NO_2 monitoring stations that will be installed within the District's boundaries to meet the requirement listed in Section 4.3 of Appendix D of 40 CFR Part 58. One station will be installed in each of the following counties: San Joaquin, Stanislaus, Fresno, and the Valley portion of Kern County.

Stockton CBSA/MSA

A PM10 TEOM Special Purpose Monitor (SPM) has been installed at the Manteca site to compare with PM10 measurements from the Stockton Wagner/Holt PM10 monitor. If the results show that the measurement prove similar enough, the Wagner/Holt monitor will be shut down and a permanent PM10 monitor (TEOM) will be installed at Manteca.

Modesto CBSA/MSA

The District does not have any changes scheduled for this MSA during this time.

Merced CBSA/MSA

The District does not have any changes scheduled for this MSA during this time. The District's long-term plan is to investigate consolidating the Merced-Coffee and Merced-M Street sites. No changes are planned at this time.

Madera CBSA/MSA

The District does not have any changes scheduled for this MSA during this time.

Fresno CBSA/MSA

Recently planted vegetation on adjacent property may require the District to relocate the Fresno-Sky Park site sometime over the next few years. There are no definite relocation plans at this time.

In addition, a NOy monitor will be added to the Parlier air monitoring site to comply with the latest regulation for PAMS Type 3 sites.

Hanford-Corcoran CBSA/MSA

The District does not have any changes scheduled for this MSA during this time.

Visalia-Porterville CBSA/MSA

The District does not have any changes scheduled for this MSA during this time.

Bakersfield CBSA/MSA

In December 2009, the Bakersfield-Golden site was shut down for relocation due to adjacent highway expansion. The replacement site, Bakersfield-Muni, will be located at the Bakersfield Municipal Airport in the Bakersfield, CA and will be about 790 meters (0.5 miles) away from CARB's Bakersfield-Planz site. This location was chosen because the airport's runway, most of the airport activities, and the dirt fields in the area are an ample distance away, and a sufficient power source is nearby. The District plans to have the Bakersfield-Muni site operational in October 2011 and will be operated by the SJVAPCD. This site will measure maximum ozone precursor emissions and will serve as a PAMS Type 2 site. The District plans to install analyzers for ozone, PM10 TEOM, PM2.5 BAM (non-regulatory), CO, NO_2, NMOC (PAMS), NMHC. Instruments for monitoring meteorology will also be installed. Once this Bakersfield-Muni site is operational, it is anticipated that the Bakersfield-Planz monitoring station will be relocated to the Bakersfield-Muni site and the Bakersfield-Planz site will be closed.

After the shutdown of the Bakersfield-Golden site, the District requested CARB's permission to temporarily operate a real time PM10 monitor at the Bakersfield-California site (06-029-0014). The sampler (a BAM PM10 FEM) began to operate in March, and its real-time data will contribute to the District's production of more accurate daily AQI forecasting. When the relocation of the new site is completed, this BAM monitor will be removed and the new site will continue PM10 monitoring with the established TEOM sampler.

The Arvin-Di Giorgio site will to monitor maximum ozone concentrations and transport from upwind urban areas, and serve as a PAMS Type 3 site (SLAMS). An NOy monitor will be added to the Arvin-Di Giorgio air monitoring site to comply with the latest regulation for PAMS Type 3 sites. Plans to construct a building at the Arvin-DiGiorgio site for monitoring NO_2 are being determined. CARB also plans to install methane/CO_2 and trace CO analyzers for special purpose monitoring.

Construction of shelters and installation of PAMS equipment for the Bakersfield-Muni and Arvin-Di Giorgio sites are planned but will not be completed in time for the 2011 PAMS season so these PAMS sites will be down during that time.

Data Submission Requirements

Precision data are submitted to AQS on an ongoing basis each quarter as the data is uploaded into AQS. The accuracy data is submitted into AQS by CARB based on their scheduled audits. The District submitted its 2010 data certification to the EPA. Annual certifications are due by May 1 of each year.

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Acronyms, Abbreviations, and Initialisms

AIRS:	Aerometric Information Retrieval System; replaced with AQS
AQI:	Air Quality Index
AQS:	Air Quality System
CARB:	California Air Resources Board
ARM:	approved regional method
BAM:	beta attenuation monitor
CAA:	Clean Air Act
CBSA:	Core-based statistical area
CCOS:	Central California Ozone Study
CFR:	Code of Federal Regulations
CRPAQS:	California Regional Particulate Air Quality Study
CO:	Carbon Monoxide
CO_2:	Carbon Dioxide
CSA:	Combined statistical area
District:	San Joaquin Valley Air Pollution Control District
EBAM:	environmental beta attenuation monitor
EPA:	U.S. Environmental Protection Agency
FEM:	Federal Equivalent Method
FIPS:	Federal information processing standard
FR:	Federal Register
FRM:	Federal Reference Method
GHG:	green house gases
MSA:	Metropolitan statistical area
NAAQS:	National Ambient Air Quality Standard
NCore:	National Core
NMHC:	Non-methane hydrocarbons
NMOC:	non-methane organic carbons
NO_2:	Nitrogen Dioxide
NOAA:	National Oceanic and Atmospheric Administration
NOx:	oxides of nitrogen
NO_y:	reactive nitrogen
NPS:	National Park Service
O_3:	ozone
PAMS:	Photochemical Assessment Monitoring Station
Pb:	lead
PM:	particulate matter
PM2.5:	particulate matter 2.5 microns or less in diameter
PM10:	particulate matter 10 microns or less in diameter
SLAMS:	State and Local Air Monitoring Station
SJV:	San Joaquin Valley
SJVAPCD:	San Joaquin Valley Air Pollution Control District
SMS:	Smoke Management System
SO_2:	Sulfur Dioxide
SPM:	Special Purpose Monitor
STN:	Speciated Trends Network
TEOM:	Tapered Element Oscillating Microbalance
TSP:	total suspended particles
Valley:	San Joaquin Valley
VOC:	Volatile Organic Compounds

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Appendix A: Monitoring Site Descriptions

Sites operated by the SJVAPCD

Bakersfield-Muni
The Bakersfield-Golden site was shut down for relocation in December 2009. The replacement site, Bakersfield-Muni, will be located in the Bakersfield, CA metropolitan area. The Bakersfield-Muni site will begin operating in October 2011 and will be operated by the SJVAPCD. This site will serve as a PAMS Type 2 site, sited to measure maximum ozone precursor emissions and will monitor ozone, PM10 TEOM, PM2.5 BAM (non-regulatory), CO, NO_2, NMOC (PAMS), NMHC, and meteorology. Bakersfield, CA is located at the southern end of the San Joaquin Valley with mountains to the east, west, and south. Because the mountains block or slow down air flow, pollutants can get trapped and build up in the area. Pollutants occur locally and also get transported from upwind locations into the area by the wind. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants, which scavenge the ozone. During the winter months, ozone concentrations decrease due to shorter daylight hours and lower temperatures. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning activities, other anthropogenic activities, and atmospheric chemistry. PM2.5 concentrations can also increase during wind blown dust events, when the wind can cause PM2.5 to become suspended in the air. On rare occasions, this region of the San Joaquin Valley experiences wind events that can carry dust into the area or lift local dust particles into the air. Such events can cause PM10 concentrations to increase and sometimes exceed the NAAQS.

Clovis-Villa
Clovis, CA is located in the central part of the San Joaquin Valley with mountains to the east and northeast. North-south air flow is virtually unobstructed. Pollutant emissions occur locally and are also transported from upwind and nearby locations into the area by the wind. The Clovis-Villa monitoring site is operated by SJVAPCD and is located in the northeastern portion of the Fresno, CA metropolitan area. It began operating in September 1990. This site is a PAMS Type 2 site, a site intended to measure maximum ozone precursor emissions. In addition to ozone (SLAMS), the site also monitors PM2.5 (BAM FEM/SLAMS), PM10 (FRM, SLAMS), CO, NO_2, NMOC, NMHC, and meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants, which scavenge the ozone. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning activities, other anthropogenic activities, and atmospheric chemistry. PM2.5 concentrations can also

increase during wind events because the wind can cause PM2.5 to become suspended in the air. On rare occasions, this area of the San Joaquin Valley experiences wind events that can carry dust into the area or lift local dust particles into the air. Such events can cause PM10 concentrations to increase.

Corcoran-Patterson
Corcoran, CA is located in the central part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutant emissions occur locally and also get transported from upwind locations into the area by the wind. The Corcoran-Patterson monitoring site is operated by SJVAPCD and is located 67 miles south of the Fresno, CA metropolitan area. It began operating in October 1996. The purpose of the site is to monitor representative concentrations of PM10 (TEOM and FRM, both SLAMS) and PM2.5 (FRM, SLAMS and a BAM SPM) and responses from surrounding areas. This site also monitors meteorology. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning activities, other anthropogenic activities, and atmospheric chemistry. PM2.5 concentrations can also increase during wind events because the wind can cause PM2.5 to become suspended in the air. On rare occasions, this area of the San Joaquin Valley experiences wind events that can carry dust into the area or lift local dust particles into the air. Such events can cause PM10 concentrations to increase.

Fresno-Drummond
Fresno, CA is located in the central part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutants occur locally and also get transported from upwind locations into the area by the wind. The Fresno-Drummond monitoring site is operated by SJVAPCD and is located in the Fresno, CA metropolitan area. It began operating in July 1984. The purpose of the site is to monitor representative concentrations of hourly ozone responses in an urban area. In addition to ozone (SLAMS), the site also monitors PM10 (FRM, SLAMS), CO, NO_2, and meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures.

Fresno-Pacific
Fresno, CA is located in the central part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutants occur locally and also get transported from upwind locations into the area by the wind. The Fresno-Pacific monitoring site is operated by SJVAPCD and is located in the Fresno, CA metropolitan area. It began operating in January 2000. The purpose of the site is to monitor representative PM2.5 (FRM, SLAMS) concentrations in an urban area. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning

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activities, other anthropogenic activities, and atmospheric chemistry. PM2.5 concentrations can also increase during wind events because the wind can cause PM2.5 to become suspended in the air. On rare occasions, this area of the San Joaquin Valley experiences wind events that can carry dust into the area or lift local dust particles into the air. Such events can cause PM10 concentrations to increase.

Fresno-Sky Park
Fresno, CA is located in the central part of the San Joaquin Valley with mountains to the east and west. Pollutants occur locally and also get transported from upwind locations into the area by the wind. The Fresno-Sky Park monitoring site is operated by SJVAPCD and is located in the Fresno, CA metropolitan area. It began operating in July 1986. The purpose of the site is to monitor representative concentrations of hourly ozone responses in an urban area. In addition to ozone (SLAMS), the site also monitors CO, NO_2, and meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures. .

Hanford-Irwin
Hanford, CA is located in the central part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutants occur locally and also get transported from upwind locations into the area by the wind. The Hanford-Irwin monitoring site is operated by SJVAPCD and is located 51 miles south of the Fresno, CA metropolitan area. The site began operating in October 1993 and was decommissioned in October 2007 due to plans to move it to a different part of the Irwin location. The purpose of the site is to monitor representative concentrations of hourly ozone, PM2.5, and PM10 (FRM and TEOM, both SLAMS) responses from upwind and nearby urban areas. The PM2.5, PM10, and ozone monitors were temporarily moved to Corcoran during site reconstruction. In February 2010, the ozone (SLAMS) and PM2.5 (BAM, SLAMS) monitors were returned to Hanford and the site became operational again. The PM10 monitor was returned and became operational in July 2010. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning activities, other anthropogenic activities, and atmospheric chemistry. PM2.5 concentrations can also increase during wind events because the wind can cause PM2.5 to become suspended in the air. On rare occasions, this area of the San Joaquin Valley experiences wind events that can carry dust into the area or lift local dust particles into the air. Such events can cause PM10 concentrations to increase.

Huron
Huron, CA is located in southwestern Fresno County, and is about 40 miles southwest of Fresno, CA, with the coastal mountain range just to the west. North-south air flow is virtually unobstructed. This monitoring site was established in January 2007 in order to comply with Assembly Bill (AB) 841. Currently, this site only measures PM2.5 (SPM), as required by AB 841.

Lebec
Lebec, CA is located in the southern-most portion of the San Joaquin Valley. The Lebec monitoring station was initiated by the Tejon Ranch in 2004, and the District assumed responsibility for this site as of January 2009. This site allows the District to better understand pollution impacts in the southern San Emigdio Mountains. The site measures meteorological parameters and PM2.5 (SPM). This site will be used for general residential wood burning declarations for the Greater Frazier Park Area in the future. The site is not yet reported on AQS.

Madera-City
Madera, CA is located in the northern part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. The Madera-City monitoring site is located closer to the city center of Madera than the Madera-Pump Yard site. The Madera-City site is operated by the SJVAPCD and became operational in June 2010. The site monitors ozone (SLAMS), PM2.5 (BAM FEM, SLAMS), PM10 (TEOM, SLAMS), and meteorology. The purpose of this site is to measure down wind concentrations of the city of Madera which will provide needed information about the variability of air quality levels on the Valley floor of Madera County.

Madera-Pump Yard
Madera, CA is located in the northern part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutants occur locally but the wind also transports pollutants into the area from upwind locations. The Madera-Pump Yard Street monitoring site is operated by SJVAPCD and is located in the Madera, CA. It began operating in August 1997. This site was established as a PAMS Type 1 site, located in an area upwind of Fresno and not to be influenced by upwind or local ozone precursor emissions. In addition to ozone (SLAMS), this site also monitors CO, NMOC, NMHC, and meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures.

Manteca
Manteca, CA is located in the northern part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutants occur locally but the wind also transports pollutants into the area from upwind locations or

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through the Sacramento Delta from the Bay Area. The Manteca monitoring site is operated by SJVAPCD is located in Manteca, CA operated by SJVAPCD. It became operational in November 2010. The purpose of the site is to monitor transport of and representative concentrations of PM2.5 (BAM/FEM, SLAMS), and PM10 (TEOM, SLAMS) from upwind and nearby urban areas. The site also monitors meteorology. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning activities, other anthropogenic activities, and atmospheric chemistry. PM2.5 concentrations can also increase during wind events because the wind can cause PM2.5 to become suspended in the air. Occasionally, wind will carry dust across the city and cause PM10 concentrations to increase, but PM10 and PM2.5 exceedances due to wind events are rare.

Maricopa
Maricopa, CA is located at the southern end of the San Joaquin Valley with mountains to the east, west, and south. Because the mountains block or slow down air flow pollutants can get trapped and build up in the area. The Maricopa monitoring site is operated by the SJVAPCD and is located 45 miles southwest of the Bakersfield, CA metropolitan area. It began operating in July 1987. The purpose of the site is to monitor representative concentrations of hourly ozone (SLAMS) in a rural area. The site also monitors meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures.

Merced-Coffee
Merced, CA is located in the northern part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutants occur locally but the wind also transports pollutants into the area from upwind locations. The Merced-Coffee monitoring site is operated by SJVAPCD and is located in the Merced, CA. It began operating in October 1991. The purpose of the site is to monitor representative concentrations of hourly ozone (SLAMS) responses from upwind urban areas. The site also monitors PM2.5 (SPM), NO_2, and meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures.

Merced-M Street
Merced, CA is located in the northern part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutants occur locally but the wind also transports pollutants into the area from upwind locations. The

Merced-M Street monitoring site is operated by SJVAPCD and is located in the Merced, CA. It began operating in April 1999. The purpose of the site is to monitor representative concentrations of PM2.5 (FRM, SLAMS) and PM10 (FRM, SLAMS) responses from upwind urban areas. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning activities, other anthropogenic activities, and atmospheric chemistry. PM2.5 concentrations can also increase during wind events because the wind can cause PM2.5 to become suspended in the air. Occasionally, wind will carry dust across the city and cause PM10 concentrations to increase, but PM10 exceedances are rare.

Parlier
Parlier, CA is located in the central part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutants occur locally and also get transported from upwind locations into the area by the wind. The Parlier monitoring site is operated by SJVAPCD and is located 20 miles southeast of the Fresno, CA metropolitan area. It began operating in March 1983. The purpose of the site, as a PAMS Type 3 site, is to monitor maximum ozone concentrations (SLAMS) and ozone responses from upwind urban areas. The site also monitors NO_2, NMOC, NMHC, and meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures.

Porterville
Porterville, CA is located in the southern part of the San Joaquin Valley near the foothills of the Sierra Nevada Mountains to the east. It is approximately 25 miles southeast of Visalia, CA, and so transport of pollutants from Visalia towards Porterville is possible. The site monitors ozone (SLAMS), PM2.5 (BAM, SPM), and meteorology. The purpose of this site is to represent air quality levels present near the foothills of the southern Valley and give the district an indication of exposure of pollutants to the local population.

Stockton-Wagner/Holt
Stockton, CA is located in the northern part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutants occur locally but the wind also transports pollutants into the area from upwind locations or through the Sacramento Delta from the Bay Area. The Stockton-Wagner/Holt monitoring site is operated by SJVAPCD and is located in the Stockton, CA metropolitan area. It began operating in October 1996. The purpose of the site is to monitor representative concentrations of PM10 (FRM, SLAMS) in an urban area. Occasionally, wind will carry dust across the city and cause PM10 concentrations to increase, but PM10 exceedances are rare.

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Tracy-Airport
Tracy, CA is located in the northern part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutants occur locally but the wind also transports pollutants into the area from upwind locations or through the Sacramento Delta from the Bay Area. The Tracy-Airport monitoring site is operated by SJVAPCD and is located in Tracy, CA. It began operating in January 2005. The purpose of the site is to monitor transport of ozone (SLAMS), PM2.5 (BAM, SPM), and PM10 (TEOM, SLAMS) from upwind and nearby urban areas. The site also monitors NO_2 and meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning activities, other anthropogenic activities, and atmospheric chemistry. PM2.5 concentrations can also increase during wind events because the wind can cause PM2.5 to become suspended in the air. Occasionally, wind will carry dust across the city and cause PM10 concentrations to increase, but PM10 exceedances are rare.

Tranquillity
Tranquillity, CA is located in western Fresno County, and is about 25 miles west of Fresno, CA, with the coastal mountain range just to the west. North-south air flow is virtually unobstructed. This monitoring site was established in November 2009 for research purposes, in an effort to better understand the Valley's background and rural pollutant concentrations. This site measures ozone (SPM), PM2.5 (BAM, SPM) and meteorological parameters.

Turlock
Turlock, CA is located in the northern part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutants occur locally but the wind also transports pollutants into the area from upwind locations or through the Sacramento Delta from the Bay Area. The Turlock monitoring site is operated by SJVAPCD and is located in the Turlock, CA. It began operating in April 1992. The purpose of the site is to monitor representative concentrations of hourly ozone (SLAMS), PM2.5 (BAM FEM, SLAMS), and PM10 (FRM, SLAMS) responses from upwind urban areas. The site also monitors CO, NO_2, and meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning activities, other anthropogenic activities, and atmospheric chemistry. PM2.5 concentrations can also increase during wind events

because the wind can cause PM2.5 to become suspended in the air. Occasionally, wind will carry dust across the city and cause PM10 concentrations to increase, but PM10 exceedances are rare.

Visalia-Airport
Visalia, CA is located where the central and southern parts of the San Joaquin Valley meet. The Sierra Nevada mountain range is approximately 20 miles east of Visalia. North-south air flow is virtually unobstructed. The Visalia-Airport monitoring site is operated by SJVAPCD and serves as a wind profiler monitoring surface wind speed and wind direction. It also monitors air temperature, and relative humidity at the surface. It began reporting official meteorological data in January 2001. Meteorological parameters have a direct influence on how and where pollutants are transported and how much pollutant concentrations increase or decrease.

Sites Operated by the CARB

Arvin-Di Giorgio
Arvin, CA is located at the southern end of the San Joaquin Valley with mountains to the east, west, and south. Because the mountains block or slow down air flow pollutants can get trapped and build up in the area. Pollutants occur locally and also get transported from upwind locations into the area by the wind. The Arvin-Di Giorgio site is located 18 miles southeast of the Bakersfield, CA metropolitan area. The purpose of the site, as a PAMS Type 3 site (SLAMS), is to monitor maximum ozone concentrations and transport from upwind urban areas. The site also monitors NO_2, NMOC, NMHC, and meteorology and CARB plans to install methane/CO_2 and trace CO analyzers for special purpose monitoring. In addition, a NOy monitor will be added to the Arvin-Di Giorgio air monitoring site to comply with the latest regulation for PAMS Type 3 sites. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations decrease due to shorter daylight hours and lower temperatures. Pollutants occur locally and also get transported into the area by wind.

Bakersfield-Planz
Bakersfield, CA is located at the southern end of the San Joaquin Valley with mountains to the east, west, and south. Because the mountains block or slow down air flow pollutants can get trapped and build up in the area. Pollutants occur locally and also get transported from upwind locations into the area by the wind. The Bakersfield-Planz monitoring site is operated by CARB and is located 6 miles north of the Bakersfield, CA metropolitan area. It began operating in September 2000. The purpose of the site is to monitor representative concentrations of PM2.5 (FRM, SLAMS) from upwind and nearby urban areas. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning activities, other anthropogenic activities, and atmospheric

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chemistry. PM2.5 concentrations can also increase during wind events because the wind can cause PM2.5 to become suspended in the air.

Bakersfield-California
Bakersfield, CA is located at the southern end of the San Joaquin Valley with mountains to the east, west, and south. Because the mountains block or slow down air flow pollutants can get trapped and build up in the area. Pollutants occur locally and also get transported from upwind locations into the area by the wind. The Bakersfield-California monitoring site is operated by CARB and is located in the Bakersfield, CA metropolitan area. It began operating in March 1994. The purpose of the site is to monitor representative concentrations of hourly and daily ozone (SLAMS), PM10 (FRM and BAM FEM, both SLAMS), and PM2.5 (FRM and BAM FEM, bother SLAMS) responses in an urban area. The site also monitors NO_2 and meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning activities, other anthropogenic activities, and atmospheric chemistry. PM2.5 concentrations can also increase during wind events because the wind can cause PM2.5 to become suspended in the air.

Edison
Edison, CA is located at the southern end of the San Joaquin Valley with mountains to the east, west, and south. Because the mountains block or slow down air flow pollutants can get trapped and build up in the area. Pollutants occur locally and also get transported from upwind locations into the area by the wind. The Edison monitoring site is operated by CARB and is located 9 miles east of the Bakersfield, CA metropolitan area. It began operating in January 1980. The purpose of the site is to monitor representative concentrations of hourly ozone (SLAMS) from upwind and nearby urban areas. The site also monitors NO_2 and meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations decrease due to shorter daylight hours and lower temperatures.

Fresno-First
Fresno, CA is located in the central part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutants occur locally and also get transported from upwind locations into the area by the wind. The Fresno-First monitoring site is operated by CARB and is located in the Fresno, CA metropolitan area. It began operating in January 1990. The purpose of the site is to monitor representative concentrations of hourly ozone (SLAMS), PM2.5 (FRM and BAM, both SLAMS), and PM10 (FRM and BAM, both SLAMS) responses in an urban area. The site also monitors CO, NO_2, SO_2, NMOC, NMHC, toxics, and meteorology. During the

summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning activities, other anthropogenic activities, and atmospheric chemistry. PM2.5 concentrations can also increase during wind events because the wind can cause PM2.5 to become suspended in the air. On rare occasions, this area of the San Joaquin Valley experiences wind events that can carry dust into the area or lift local dust particles into the air. Such events can cause PM10 concentrations to increase.

Modesto-14th Street
Modesto, CA is located in the northern part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutants occur locally but the wind also transports pollutants into the area from upwind locations or through the Sacramento Delta from the Bay Area. The Modesto-14th Street monitoring site is operated by CARB and is located in the Modesto, CA metropolitan area. It began operating in January 1981. The purpose of the site is to monitor representative concentrations of hourly ozone (SLAMS), PM2.5 (FRM and BAM, both SLAMS), and PM10 (FRM, SLAMS)responses in local and upwind urban areas. The site also monitors CO and meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning activities, other anthropogenic activities, and atmospheric chemistry. PM2.5 concentrations can also increase during wind events because the wind can cause PM2.5 to become suspended in the air. Occasionally, wind will carry dust across the city and cause PM10 concentrations to increase, but PM10 exceedances are rare.

Oildale
Oildale, CA is located at the southern end of the San Joaquin Valley with mountains to the east, west, and south. Because the mountains block or slow down air flow pollutants can get trapped and build up in the area. Pollutants occur locally and also get transported from upwind locations into the area by the wind. The Oildale monitoring site is operated by CARB and is located 6 miles north of Bakersfield, CA within the metropolitan area. It began operating in January 1980. The purpose of the site is to monitor representative concentrations of hourly ozone (SLAMS) responses and PM10 (FRM, SLAMS) every 6 days in an urban area. The site also monitors meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night

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with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. Not only does the metropolitan area generate its own pollution, it is also the recipient of pollutants that get transported by wind. On rare occasions, this area of the San Joaquin Valley experiences wind events that can carry dust into the area or lift local dust particles into the air. Such events can cause PM10 concentrations to increase.

Shafter

Shafter, CA is located at the southern end of the San Joaquin Valley with mountains to the east and west, and 58 miles to the south. Because the mountains to the south are further away, southward air flow is less obstructed through Shafter so pollutant build-up is less pronounced compared to Bakersfield and the towns further south. Pollutants occur locally and wind can transport pollutants into and through Shafter from nearby and upwind areas. The Shafter monitoring site is operated by CARB and is located 18 miles northwest of the Bakersfield, CA metropolitan area. It began operating in January 1989. This site was established as a PAMS Type 1 site (SLAMS), located in an area upwind of Bakersfield and not to be influenced by upwind or local ozone precursor emissions. The site also monitors NO_2, NMOC, NMHC, and meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. Being located upwind of Bakersfield, the Shafter site tends to have lower ozone concentrations than does the metropolitan area to the south.

Stockton-Hazelton

Stockton, CA is located in the northern part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutants occur locally but the wind also transports pollutants into the area from upwind locations or through the Sacramento Delta from the Bay Area. The Stockton-Hazelton monitoring site is operated by CARB and is located in the Stockton, CA metropolitan area. It began operating in June 1976. The purpose of the site is to monitor representative concentrations of ozone (SLAMS), PM2.5 (BAM and FRM, both SLAMS), and PM10 (FRM, SLAMS) in an urban area. The site also monitors CO, NO_2, toxics, and meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning activities, other anthropogenic activities, and atmospheric chemistry. PM2.5 concentrations can also increase during wind events because the wind can cause PM2.5 to become suspended in the air. On rare occasions, wind will carry dust across the city and cause PM10 concentrations to increase, but PM10 exceedances are rare.

Visalia-Church

Visalia, CA is located where the central and southern parts of the San Joaquin Valley meet. The Sierra Nevada mountain range is approximately 20 miles east of Visalia. North-south air flow is virtually unobstructed. Pollutants occur locally and also get transported from upwind locations into the area by the wind. The Visalia-Church monitoring site is operated by CARB. It began operating in July 1979. The purpose of the site is to monitor representative concentrations of hourly ozone (SLAMS), PM2.5 (BAM and FRM, both SLAMS), and PM10 (FRM, SLAMS) responses from upwind and nearby urban areas. The site also monitors NO_2 and meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning activities, other anthropogenic activities, and atmospheric chemistry. PM2.5 concentrations can also increase during wind events because the wind can cause PM2.5 to become suspended in the air. On rare occasions, wind will carry dust across the city and cause PM10 concentrations to increase, but PM10 exceedances are rare.

Special Purpose Monitoring Sites

Sequoia-Ash Mountain

The Ash Mountain monitoring station is operated by Sequoia National Forest and is located at the southern entrance of Sequoia National Park at a 1,500-foot elevation. It originally began operating in 1985, though the site has been relocated several times over the years. The site demonstrates the hourly ozone (SPM) response in the foothills. The site also monitors PM2.5 (BAM, SPM) and meteorology. On summer days, ozone and precursors can be transported to Ash Mountain from other locations. At this location, there are significantly lower hourly emissions of NOx as compared to urban areas such as Bakersfield, or Fresno, CA. The amount of available NOx at Ash Mountain to scavenge the ozone is much lower. Because the ozone scavenging at Ash Mountain is much less than the ozone scavenging in urban areas, Ash Mountain can experience elevated ozone concentrations for a 24-hour period during ozone episodes. Since the ozone concentration is already fairly high at dawn, only a relatively small amount of additional ozone can cause levels in the atmosphere to exceed federal standards.

Sequoia-Lower Kaweah

The Lower Kaweah monitoring station is operated by Sequoia National Forest and is located at the southern entrance of Sequoia National Park at a 6,200-foot elevation. It began operating in April 1987. The site demonstrates the hourly ozone (SPM) response in a rural area. The site also monitors meteorology. On summer days, ozone and

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precursors can be transported to Ash Mountain from other locations. At this location, there are significantly lower hourly emissions of NOx as compared to urban areas such as Bakersfield, or Fresno, CA. The amount of available NOx at Lower Kaweah to scavenge the ozone is much lower. Because the ozone scavenging at Lower Kaweah is much less than the ozone scavenging in urban areas, Lower Kaweah can experience elevated ozone concentrations for a 24-hour period during ozone episodes. Since the ozone concentration is already fairly high at dawn, only a relatively small amount of additional ozone can cause levels in the atmosphere to exceed federal standards.

Other Sites

Santa Rosa Rancheria

Santa Rosa Rancheria is Tribal land located in the central portion of the San Joaquin Valley in Lemoore, CA. It is 13 miles southwest of Hanford, CA and 39 miles south of the Fresno, CA metropolitan area. The Diablo Mountain Range is approximately 27 miles east of Santa Rosa Rancheria. North-south air flow is virtually unobstructed. Pollutants occur locally and wind transports pollutants into and through the site from nearby and upwind urban areas as well. The Santa Rosa Rancheria monitoring site is operated by the Tachi-Yokut tribe. It began operating in August 2006. The purpose of the site is to monitor representative concentrations of hourly ozone (SPM) and PM10 responses from upwind and nearby urban areas. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. On rare occasions, this area of the San Joaquin Valley experiences wind events that can carry dust into the area or lift local dust particles into the air. Such events can cause PM10 concentrations to increase.

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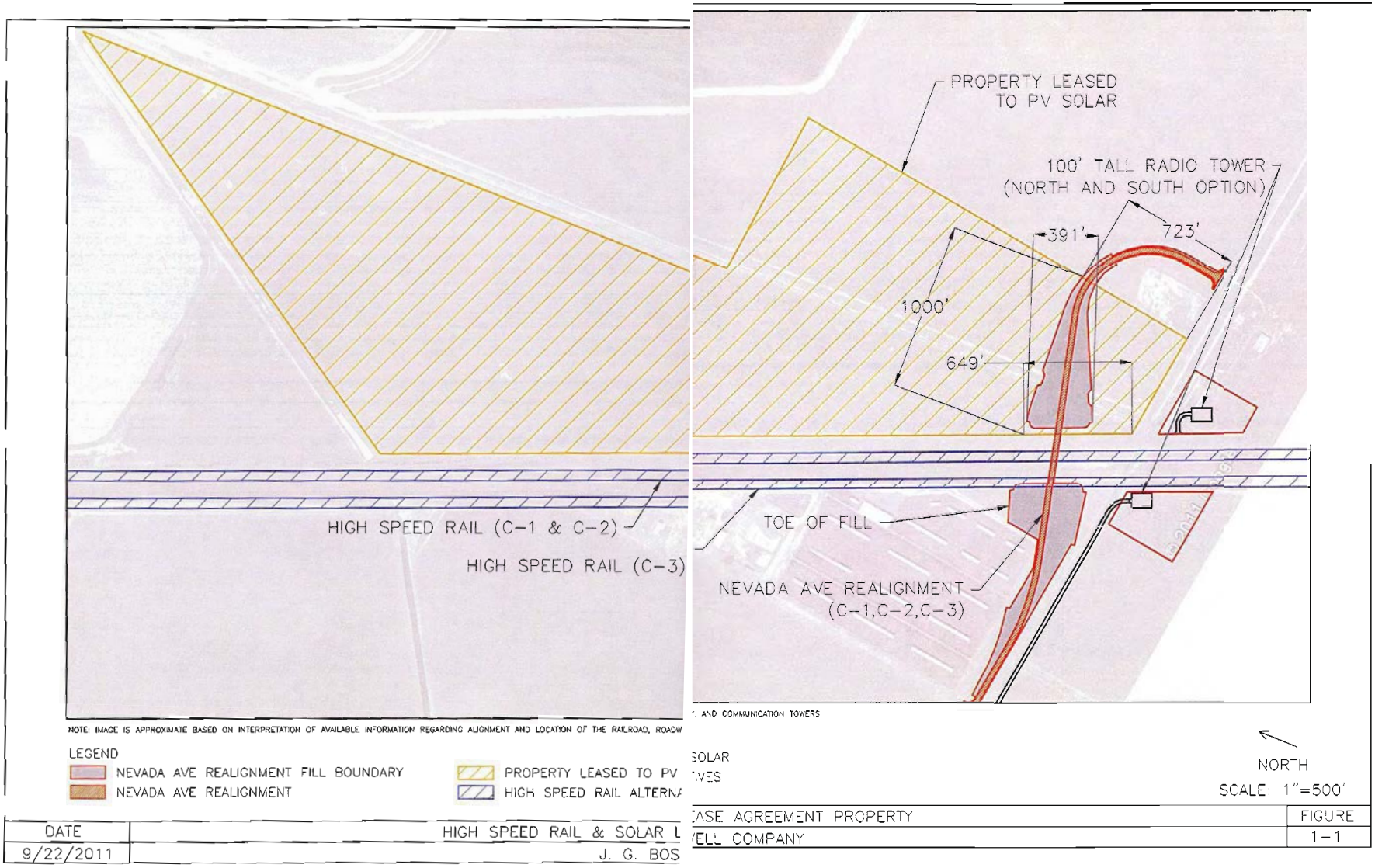

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LIST OF PREPARERS

Jerald W. Roby, P.E., Engineering Manager Emeritus, J.G. Boswell Company. Mr. Roby has nearly 40 years experience in Electrical, Civil, and Mechanical Engineering. He was responsible for J.G. Boswell Company processing division's physical plant, infrastructure, utilities and electrical systems. Projects included the design, construction oversight, inspection, startup and maintenance of all the separate systems comprising the agricultural processing operations. Mr. Roby received a B.S in Electrical Engineering in 1972 from California Polytechnic State University San Luis Obispo. Mr. Roby has 39 years of experience working for J.G. Boswell and is thoroughly familiar and knowledgeable concerning its facilities and their operation.

Dennis C. Tristao, Manager, Environmental Affairs, J.G. Boswell Company. Mr. Tristao has addressed stationary source air quality issues for over 20 years. He performs permitting development strategies and analysis for Company operations including industrial, agricultural, and area sources. He assists in the interpretation of proposed and existing federal and State rules and regulations. He has developed permitting of federally enforceable permits in accordance with Title V of the federal Clean Air Act, emission reduction credit banking, and addressed hazardous air pollutants. He also addressed California Environmental Quality Act (CEQA) issues for many of the Company's operations. He is a Certified Air Permitting Professional and registered Environmental Assessor. Mr. Tristao received a B.S. in Agricultural Business Management in 1979 from California Polytechnic State University San Luis Obispo. Mr. Tristao has 27 years of experience working for J.G. Boswell and is thoroughly familiar with the operation and permitting of its facilities.

Isaac Faria, P.E., Environmental Affairs Specialist, J. G. Boswell Company. Mr. Faria stays current on environmental regulatory issues affecting the Company. As an environmental engineer, Isaac works directly on projects, conducting analysis, calculations, research, monitoring and reports. His recent projects include planning (CEQA and greenhouse gas regulations), Spill Prevention Control and Countermeasure plans, Risk Management Plans, and storm water regulations. Prior to joining the J.G. Boswell Company, Isaac worked at Boyle Engineering (now AECOM), an engineering consulting firm dedicated to water, wastewater, and transportation infrastructure projects. Mr. Faria received a B.S. in Civil and Environmental Engineering in 2005 from the University of California, Berkeley.

John A. Smith, Tartaglia Engineering (airport consultant). See attached Statement of Qualifications for Mr. Smith and Tartaglia Engineering.

Raymond L. Carlson, partner, Griswold, LaSalle, Cobb, Dowd & Gin, L.L.P. Mr. Carlson has practiced law for the last 23 years in the fields of water rights; public entity law; environmental and administrative entity law and litigation; agricultural cooperatives; and business transactions and litigation. He received his J.D. from Boalt Hall in 1987.

Tartaglia Engineering — Statement of Qualifications

Firm Organization

Tartaglia Engineering has an outstanding reputation in airport consulting. In the past 28 years, while focused on FAA Airport Improvement Program (AIP) projects, the firm has designed over $85 million worth of airport improvements. We have provided engineering, design, surveying, construction management, facilities analysis, and master plan support services for 30 municipal and private airport and airfield clients.

Bob Tartaglia and Glen Hughes established their own consulting engineering and surveying firm in 1982 as Tartaglia-Hughes Consulting Engineers. The success of the firm was immediate. Throughout the 1980's and 1990's, they expanded their expertise and list of valued airport clientele, while remaining a focused, small, responsive firm. Client satisfaction was reflected in the firm's repeat clientele.

After the loss of his business partner Glen Hughes, Bob reorganized as Tartaglia Engineering. John Smith was brought into the firm in 2001, bringing 13 years of aviation consulting experience. Today the active project list reflects a range of airport engineering projects for municipal and private airports. Current projects include a vehicle access road, hangar development, pilots lounge, and safety grading at Mefford Field; reconstruction of Runway 2-20, construction of a connecting taxiway, and relocation of the segmented circle, primary wind cone, and AWOS at Inyokern Airport; rehabilitation of Runway 12-30 including guidance sign upgrades at Porterville Airport, and rehabilitation of Runway 11-29 at Marina Municipal Airport.

The firm's staff consists of four Registered Civil Engineers; John Smith, Robert Tartaglia (also a licensed surveyor), Scott Kope, and Brett Dolan; Construction Inspectors Robert Wallace, Don Minyard; an EIT, two LSITs, an Environmental Specialist, AutoCad technicians and clerical staff. Technical and Cad staff remain current in civil design, airfield design, and construction management practices through attendance at seminars and continuing education programs.

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Firm Capabilities

Tartaglia Engineering offers complete airport consultant services and has demonstrated experience in all phases of airport engineering, from planning through design and construction contract administration. Specifically, the firm has expertise in the following areas:

Planning Services
a. Airport layout plans (ALP)
b. Airport industrial parks
c. Airport master plans
d. Environmental evaluations

Grant Application and Grant Management Services
a. Coordination with funding agencies
b. Capital improvement programs
c. Grant application preparation
d. Reimbursement requests

Design Services
a. Construction plans for airport improvements including surveying for design
b. Contract documents and specifications
c. Final cost estimates
d. Bidding assistance
e. Storm water pollution prevention and erosion control plans

Construction Contract Administration Services
a. Inspection services
b. Construction staking
c. Contract administration
d. Submittal review
e. Payroll review, payroll interviews, and prevailing wage compliance
f. Preparation of periodic pay requests, requests for proposals, change orders, etc.

Miscellaneous Additional Services
a. Airport Pavement Management Systems
b. Aerial topography / photography
c. Lease site legal descriptions and surveying
d. Master drainage plans and studies

The firm is especially adept in assisting airport project sponsors in evaluating airfield conditions and establishing priorities for improvements. Through our close contact with the funding agencies, we are effective in our ability to secure funding for eligible airport improvement items.

Representative Projects

Rehabilitate Runway 11-29, parallel and connecting taxiways, and airfield electrical upgrades:
Marina Municipal Airport has seen very little maintenance since the City acquired the facility during a base closing effort in 1995. The scope of improvements included an engineered overlay of Runway 11-29, an overlay of the parallel and all connecting taxiways, new runway and taxiway lighting systems, apron lighting, a new beacon and tower, and electrical vault upgrades including a pilot control panel, constant-current regulators, and an emergency generator. Construction of Phase 1 improvements focusing on the runway and electrical vault are nearing completion. The City is anticipating grant funding for Phase 2 within the next 30 days. Services provided included grant management, design and packaging of all improvements, construction management and inspection, and assistance with communications to airport tenants and users. Phase 1 construction is $1,600,000. Phase 2 construction cost is $1,800,000. At 95% complete, Phase 1 is 3.5% under budget. The entire effort should be complete by December, 2011.
Project Challenge: Minimize impact to on-airport businesses. Solution: Temporary relocate runway to parallel taxiway.
Client Reference: Craig Oliver: 831-884-1241.

Relocate Dale Fry Road:
The outer parallel taxiway at Mefford Field Airport, City of Tulare, has forever been Dale Fry Road, a city street. Recent increases in business activity at the southern end of the airport has put delivery trucks at odds with taxiing aircraft and a helicopter pilot school. Project improvements included constructing a new access road on the back side of four existing businesses, facilitating a separation between vehicles and aircraft. Improvements included a new city street with curb, gutter, sidewalk, water main with hydrants and water services, street lights, drainage, and new airport perimeter fencing and access gates. Construction was complete November, 2010. Due to minor revisions during construction, the final cost to construct was $610,000.00, 4% under the contractors bid amount.
Project Challenge: Weather and over-wet site conditions. Solution: Work with contractor through a contract suspension until conditions improved.
Client Reference: Rich Lujan: 559-684-4329.

Rehabilitate Runway 12-30:
Runway 12-30 at Porterville Airport was rehabilitated in 1989. The porous friction course (PFC) had started failing over the last few years, generating FOD on the runway and creating a hazard to aircraft. Project improvements included removal of the PFC, constructing an engineered overlay of the entire runway followed with runway grooving and new pavement markings. Finally, the project included upgrades and revisions to edge lighting and guidance signage. Construction was complete April, 2011. The final cost to construct was $1,900,000.00 slightly under the contract bid amount.
Project Challenge: Minimize impact to the Cal-Fire / USFS joint air-attack base. Solution: Shift the project start date to a more favorable time of year and focus construction activities at night.
Client Reference: Jim McDonald: 559-782-7540.

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Overall Firm Experience

Tartaglia Engineering is an established firm with an outstanding reputation in the airport consulting field. During the past 28 years, while concentrating on FAA Airport Improvement Program (AIP) construction projects, the firm has been responsible for the design of over $85 million worth of airport improvements. Following is a list of various airport clients and the associated projects undertaken by the firm.

Santa Ynez Valley Airport

2003:	AIP 04/05	Apron rehabilitation including drainage, installation of aircraft tie-downs, and pavement markings.
2004:	AIP 06	Install AWOS (assistance to airport).
2005:	AIP 07/8/9	Apron rehabilitation, access road rehabilitation, airfield drainage, slurry seal and stripe runway and taxiways.
2006:	AIP 10	Taxilane rehabilitation, fencing, and drainage improvements.

Mesa Del Rey Airport (King City)

1957:	CAAP	Overlay Runway 11-29.
1960:	AIP-02	Overlay parallel and connecting taxiways.
1969:	AIP-03	Grading and drainage improvements for northwest area, construct one helicopter parking pad and remove and replace 2-10,000 gallon fuel tanks and controls.
2003:	AIP-05	Apron rehabilitation - phase I, rehabilitate Runway 29-11 and east-side taxiway.
2003:	AIP-07	Apron rehabilitation - phase II, east side drainage, relocate south access road.

Oceano Airport

1993: CAAP Slurry seal G.A. apron.

2004: AIP-04 Remove and dispose underground fuel facility. Install new above-ground fuel facility including fuel management and monitoring systems.

2004: AIP-04 Rehabilitate Runway 11-29, parallel and connecting taxiways, and the main tie-down apron.

Watsonville Municipal Airport

1986:	AIP-03	Taxiways, holding apron, tie-down apron, MITL and PAPI.

Fresno Air Terminal

1986:	AIP-02/04	Parallel taxiway, holding apron, MITL, stabilized shoulders, drainage, service road, concourse parking apron and remove miscellaneous obstructions.
1991:	AIP-10	Portion air carrier ramp, auto gate, taxiway, stabilized shoulders and MITL.
1993:	City	Electrical improvements, including relocation of ALS vault.

Tulare Municipal Airport (Mefford Field)

2000:	CAAP	Localized removal and reconstruction of asphalt pavement, slurry seal and strip

runway and taxiways.

2002:	City	Spill Prevention Control and Countermeasure Plan (SPCC)
2005:	AIP-05	Localized removal and reconstruction of asphalt pavement, slurry seal and strip taxiways.
2006:	AIP-07/08	Fire protection improvements including water main, hydrants, new water well, and connection to existing municipal system.
2007:	AIP-09	Install AWOS
2008:	AIP-10/11	Relocate access road (Dale Fry), including earthwork, asphalt pavement, sidewalk, curb & gutter, water main, storm drain, and perimeter fencing.
2010:	AIP 12	Rehabilitate Runway 13-31 including safety grading and drainage improvements.

Paso Robles Municipal Airport

1983:	AIP-01	Tie-down apron.
1984:	AIP-02	Runway 1-19 overlay and PFC and slurry seal taxiways.
1986:	AIP-04	Grade safety area for Runway 19 approach, MIRL for Runway 13-31, PAPI and auto airport lighting controls.
1987:	AIP-05	Overlay and reconstruct taxiways and install signs.
1989:	AIP-06	Tie-down aprons, helipad, blast pads for Runways 19 and 13.
1991:	AIP-07/08	Construct, reconstruct and overlay taxiways, including MITL and tie-down apron.
1995:	AIP-09	Construct holding and tie-down aprons, reconstruct portion of Runway 19 and upgrade taxiway guidance sign system.
1996:	AIP-10	Runway 13-31 overlay and overlay portion of Taxiway B.
2001:	AIP-11	Replacement of the Runway 1-19 edge lighting system and installation of distance remaining signs.
2001:	AIP-13	Rehabilitation of Runway 1-19 including complete removal of the porous friction course, asphalt overlay of the runway, pavement grooving, installation of new pavement markings, and runway end safety grading.
2004:	AIP-15	Reconstruct Taxiway D, slurry seal & stripe Runway 13-31 & Taxiway's A-F.
2009:	AIP-19/20	Extend Taxiway Alpha, including earthwork, asphalt pavement, storm drainage, airfield electrical, pavement markings, and erosion control.

Porterville Municipal Airport

1989:	AIP-02	Taxiways to hangar area, drainage and access road.
1990:	AIP-03	Runway 12-30 overlay, overlay parallel and connecting taxiways, reconstruct and construct taxiways, holding apron, helipad, access road, MITL, signs, radio control and fencing, including auto gates.
1995:	AIP-04, I	Place PFC on Runway 12-30.
1996:	AIP-04, II	Construct taxiways and access road to hangar area, including floodlighting, reconstruct and slurry seal aircraft parking apron, overlay and construct commercial taxiway, and install drainage improvements.
2005:	AIP-05	Slurry seal and stripe runway and taxiways, perimeter fence and access gate improvements.
2007:	AIP-07	Airfield electrical improvements
2010:	AIP-10	Rehabilitate Runway 12-30 including removal of PFC, grade-correcting asphalt overlay, shoulder backing, adjust edge lights, pavement marking, & grooving.

Merced Municipal Airport

1994:	AIP-04	Upgrade and modify signs.

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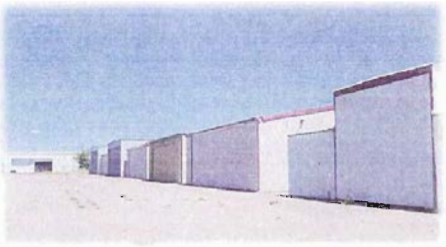
San Luis Obispo County Airport

1990:	CAAP	Drainage improvements.
1991:	AIP-07	Taxiway, MITL, signs and wind cone.
1993:	CAAP	Slurry seal G.A. apron and taxilanes.
1993:	CAAP	Reconstruct and slurry seal taxiways.
1993:	AIP-09	Entrance road, fencing and taxiway.
1995:	County	Runway 11-29 repair
1996:	AIP-10/11	Grade runway and taxiway safety areas, construct holding aprons, HIRL and install emergency standby generator.
1997:	AIP-10/13	Overlay Runways 11-29 and 7-25 and Taxiway E.
2000:	County	Generation of a Pavement Management System (PMS) in accordance with FAA guidelines and requirements.
2000:	AIP-18	Runway extension, Phase 1 - stream replacement with culvert, utility relocation.
2000:	County	Perform a drainage analysis of the entire airport including evaluation of two existing retention basins. Establish a schematic design for future drainage improvements to serve a future hangar complex.
2001:	AIP-20	Runway extension, Phase 2 - extension of Runway 11-29 and Taxiway A, construction of Taxiway M and adjacent ramp, relocation of Buckley Road. Part of a design team.
2002:	AIP-22	Rehabilitation of Taxiway A, construction of runway safety area, vehicle access road, airfield drainage. Part of a design team.
2003:		Terminal access road conceptual design.
2004:		Aircraft and Firefighting Facility (ARFF). Part of a design team.
2004:		Rental Car Get-Ready Center conceptual design and estimate.
2005:	AIP-31	East side ramp, FAA taxiways & access road including earthwork, paving, fencing, and utilities. Part of a design team.
2006:	AIP-32	Relocation of Santa Fe Road in advance of the runway extension.
2007:	AIP-32	Extend Runway 11 and parallel taxiway. Part of a design team. Construction administration and inspection.
2007:	AIP-32	Realign Aero Drive; install water, sewer, and cable utilities; install traffic signals at Aero Drive at Highway 227 (Broad Street).
2009:	AIP-36	Construction administration and inspection of terminal apron construction (design by others).



Tarlock Municipal Airport

2004: AIP 03/04

Rehabilitation of the main tie-down apron; extensive airport drainage improvements; fire suppression system including well, pumps, storage tank distribution piping, and hydrants; electrical and communications infrastructure

Sequoia Field Airport (Tulare County)

2004:	AIP 01/02	Rehabilitation of the runway, parallel and connecting taxiways, tie-down apron, perimeter fencing, airport drainage improvements, and new airfield lighting.

Delano Municipal Airport

1995:	AIP-03	Overlay Runway 14-32.

Santa Barbara Municipal Airport

1993:	AIP-06/07	Terminal apron expansion, taxiway, service road, holding aprons, MITL and signs.
1995:	AIP-09	Overlay and PFC Runway 7-25, stabilized shoulders for Runway 7-25 and taxiways.
1997:	AIP-11	Grade runway and taxiway safety areas.
1999:	AIP-18/19	Grade runway and taxiway safety areas and habitat mitigation areas.
2001:	AIP-20	Rehabilitation of Taxiway's A, F, and G.
2010:	AIP-2x	Safety area grading and habitat mitigation area improvements.
Continuous		Professional Services Retainer

Visalia Municipal Airport

1984:	AIP-02	Runway 12-30 PFC, holding apron, access road, including land acquisition and fencing.
1986:	AIP-03	Land acquisition, signs and fencing.
1987:	AIP-04	MITL, signs, tie-down apron, taxiway and wind cone and segmented circle.
1989:	AIP-06	Tie-down apron, taxiway, PAPI and auto airport lighting controls.
1991:	AIP-07	Terminal apron and connector taxiways, MITL and fencing. (Project not constructed.)
1993:	AIP-07/08	Grade runway safety area, including service road, HIRL, terminal apron, taxiways, terminal access road, east side access road, auto gate, fencing and signs.
1995:	AIP-09	Reconstruct parking lot and taxiways, construct helipad, access road and blast pad for Runway 30, and install terminal area floodlighting.
1996:	AIP-08, 1	Construct 2 helicopter parking pads and stabilized shoulders.
1997:	AIP-10/11	Reconstruct air cargo ramp area and install 2 electric, automatic slide gates.

Hayward Executive Airport

2006:	City	Relocate ASOS including access road and extension of electrical facilities.

Marina Municipal Airport

2004:	AIP-04	Extend runway (rehabilitate existing overrun).
2004:		Professional services retainer
2008:	AIP-07	Pavement maintenance, main apron
2009:	AIP-08	Rehabilitate runway and parallel taxiway including airfield electrical upgrades, pavement marking, and installation of emergency generator (Design).
2010:	AIP-09	Rehabilitate runway and parallel taxiway including airfield electrical upgrades, pavement marking, and installation of emergency generator (Construction).

Reedley Municipal Airport

1989:	AIP-02	PAPI, tie-down apron, taxiways to hangar area and access road.

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Tehachapi Municipal Airport

2007:	AIP-10	Surface drainage improvements including concrete valley gutter.
2007:	AIP-10	Airfield electrical upgrades including runway and taxiway lights, guidance signs, airport beacon, REIL's, PAPI, primary and secondary lighted wind cones, electrical vault, and apron area lighting.

Coalinga Municipal Airport

2004:	AIP 05	Airfield pavement maintenance including slurry seal and striping of Runway 30-12, parallel and connecting taxiways, safety grading improvements, localized pavement repair, installation of new guidance signs, and electrical upgrades at the helipad.

Fresno-Chandler Downtown Airport

1991:	AIP-02	AWOS III and GVGI.

Hearst Corporation

1999:	Private	Runway overlay and drainage improvements.

Santa Maria Airport

2007:	AIP 28-30	Extend Runway 12. Project Manager, construction contract administration services for this multi-year project. Construction to conclude in 2011 (design by others).
Continuous		Professional Services Retainer

Inyokern Airport

Continuous		Professional Services Retainer
2011:	AIP 27	Rehabilitate and widen Runway 2-20, construct Taxiway A1, safety grading.

LaPanza Ranch

2007:	Private	Grading, drainage, and development plans for a private airstrip.

Tartaglia Engineering provided engineering design services as a sub-consultant to Skyway Engineering Inc., of Santa Maria on the following projects.

1. Complete replacement of the runway lighting system at Oceano Airport.
2. Replacement of the airport beacon and tower at Oceano Airport.
3. Fence replacement project and automatic gate installation at Oceano Airport.
4. Reconstruction of the Hangar Taxiway at San Luis Obispo Airport.
5. Topographic survey and design assistance for extensive hangar complex at Camarillo Airport.

Client References

Santa Barbara Municipal Airport Owen Thomas, Supervising Engineer City of Santa Barbara 601 Firestone Road Goleta, CA 93117 (805) 692-6018	Tulare Municipal Airport (Mefford Field) Rich Lujan, Airport Operations Supervisor City of Tulare 830 South Blackstone Tulare, CA 93274 (559) 684-4329
Marina Municipal Airport Craig Oliver, Chief Building Official City of Marina 211 Hillcrest Avenue Marina, CA 93933 (831) 884-1241	San Luis Obispo County Regional Airport George Rosenberger, Director, General Services San Luis Obispo County Recently Retired Home number provided (805) 543-1032
Paso Robles Municipal Airport Roger Oxborrow, Airport Services Coordinator Paso Robles Municipal Airport 4912 Wing Way Paso Robles, CA 93446 (805) 237-3877	Porterville Municipal Airport Jim McDonald, Airport Manager City of Porterville 1893 S. Newcomb Road Porterville, CA 93257 (559) 782-7540

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Contractor References

References are listed to provide an opinion on the clarity and accuracy of Tartaglia Engineering produced contract documents, and on the capabilities and services provided during the Construction Phase.

CalPortland Construction Bill Marsalek, Supervising Engineer P.O. Box 1280 Santa Maria, CA 93456 (805) 922-9858 Reference: Santa Ynez Airport	Asphalt Maintenance Company, Inc. Greg Glick, Owner 1641 E. Tulare Ave Visalia, CA 93292-1507 (559) 627-5373 Reference: Coalinga Airport
Lee Wilson Electric Lee "Bud" Wilson, Owner P.O. Box 250 Arroyo Grande, CA 93421 (805) 489-4216 Reference: Paso Robles & San Luis Obispo	Granite Construction John Van Lenten, Project Manager P.O. Box 6744 Santa Barbara, CA 93111 (805) 964-9951 Reference: Santa Barbara Airport
Souza Construction, Inc. Steve Souza, Owner P.O. Box 3810 San Luis Obispo, CA 93403 (805) 546-8288 Reference: Santa Fe Road, San Luis Obispo	R. J. Berry Jr., Inc. Robert J. Berry Jr., President P.O. Box 468 Selma, CA 93662 (559) 896-1680 Reference: Sequoia Field & Mefford Field

Value Engineering

Value Engineering (VE) is a practice whereby design alternatives are prepared providing comparable improvements at the lowest life cycle cost, while maintaining the standards for safety, performance, and quality. Multiple designs are evaluated for effectiveness and cost. By implementing a modified design, different materials, or re-ordering construction activities, the cost can be reduced without compromise in quality, integrity, or design life. The FAA standard for Value Engineering is found in AC 150/5300-15 *Use of Value Engineering for Engineering and Design of Airport Grant Projects.*

Tartaglia Engineering utilizes Value Engineering services daily. Combined years of airport engineering experience in Robert Tartaglia, John Smith, Scott Kope, and Brett Dolan result in airfield improvement design packages complying with the standards of the funding agencies. This attracts the interest of potential contractors, meets the overall goals of the project, and can be efficiently constructed with industry-standard procedures and equipment.

This method is applied to each project in the following ways:

1. Maintaining a pulse on the bidding environment through weekly communications with local civil contractors. A shift in the bid date can impact construction costs without triggering design revisions.
2. Maintaining sensitivity toward the constraints of construction associated with phased work. Modifications to phasing plans, work windows, or airfield closure periods can allow for longer, more desirable work shifts with positive results.
3. Maintaining an understanding of the availability of construction materials. Designing improvements with knowledge of the locally available materials, such as asphalt or Portland cement concrete, can reduce construction costs.
4. Sensitivity to environmental constraints of the project and materials, methods and sequencing, help meet permit requirements and allow construction to proceed.

As needed, the team employs the standards of Engineering Economics to evaluate life cycle cost, rate of return comparisons, or cost-benefit comparisons. Advisory circular guidelines help with review of the design approach to confirm or revise the design solution.

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Technical Approach to Maintenance and Improvement Projects

During the course of all projects, assistance would be provided to Owner for the preparation of application documents required by FAA for their grant program. Services necessary for the successful completion of airport improvement projects are listed herein. All services may not apply to every project. The general approach is similar, however, and will include most of the listed items per task.

Task 1 - Preliminary Investigation

Required action to begin: Owner issues Notice to Proceed.

a. Consult with Owner representative on background of project elements and establish objectives and criteria, confirming particular areas of concern.
b. Establish project schedule for preliminary design, environmental permitting, final design, bidding and construction.
c. Conduct site investigation, review records related to existing electrical facilities and soils. Arrange for soils testing or investigative tests for work elements and establish preliminary design requirements.
d. Prepare preliminary quantities and construction cost estimates for each work elements.
e. Establish scope and schedule of field survey work needed for the design phase.
f. Review existing drainage patterns to ensure compatibility with new design.
g. Review environmental requirements of the proposed project. Determine appropriate analysis, studies, and documentation for continued progress.

Task 2 - Preliminary Engineering Design

As items in Task 1 are completed and required reviews are made by Owner representative, work will proceed directly onto Task 2.

a. Perform field survey work needed for design of project improvements. Controls shall be set and centerlines established for runways, taxiways, access roads, apron areas, or drainage and utilities. Gathered field data shall include cross sections at 50-foot intervals for runways and taxiways, aprons and ramps and improvement areas.
b. Establish preliminary design grades, plans and layouts.
c. Make recommendations for conditions flagged in the preliminary engineering design phase.
d. Review FAA design guidelines for upgrades to airfield lighting and signage, pavement marking, and airport security measures. Incorporate into the project.
e. Update quantity and cost estimates to reflect changes. Provide construction cost analysis related to construction window constraints (time of day or season).
f. Submit and review estimates and preliminary designs with Owner representative.
g. Coordinate with the FAA representatives.
h. Provide technical input regarding construction methods, types and quantities of construction materials, and seasonal constraints for environmental considerations.
i. Identify construction impacts to airport operations and make recommendations for work scheduling and project phasing.
j. Participate in presentations to Owner, airport user groups, agencies and decision makers.

Task 3 - Final Design

Required action to begin: Upon completion of the items of Task 2 and review by Owner representative, work will automatically begin on Task 3.

a. Prepare final plans, specifications and "bid-ready" contract documents for the construction work, including the identification of any Bid Alternates approved by the Owner.
b. Prepare an Engineer's Report in support of the design and Bid Package in accordance with FAA requirements.
c. Prepare final itemized cost estimates for the construction of elements and bid alternates, as needed.
d. Submit plans, specifications and Engineer's Report to Owner, FAA, and Caltrans as appropriate. Provide assistance in obtaining agency approvals.
e. Make changes or corrections as requested by the Owner or FAA after reviews have been made.
f. Coordination with FAA representative as needed.
g. Acquire utility approvals and permits.
h. Continue with environmental coordination effort. Seek agency buy-in to the project.
i. Establish optimum construction window, considering weather, material availability, and financial (grant) constraints.
j. Return to user groups and decision making boards and hearings with current information on environmental impacts and mitigation measures, impacts to airport operations, and construction work windows.

Task 4 - Bidding Phase

Required action to begin: Owner authorization to proceed with public bidding process.

a. Assist the Owner in the bidding process. Duplicate contract documents. Distribute to plan rooms and contractor associations.
b. Prepare and issue a Notice Inviting Sealed Bids. Notify public.
c. Schedule, chair, and take minutes at a Pre-Bid Job walk.
d. Issue addenda if necessary.
e. Receive, open, and review bids for adequacy and completeness. Make recommendation to Owner and FAA for award of construction contract.

Task 5 - Construction Contract Administration/Management

Required action to begin: Owner commitment/authority to proceed with construction.

a. Schedule, chair, and take minutes at the Pre-construction Conference.
b. Implement environmental mitigation measures and construction constraints.
c. Provide construction surveying and layout.
d. Coordinate and provide construction materials testing.
e. Provide construction inspection. Document contractor operations in daily diary/log.
f. Prepare, complete, and submit weekly FAA Construction Progress Reports.
g. Provide field engineering, including plan and specification interpretation.
h. Provide periodic review of contractor operations for compliance with safety and environmental/erosion control regulations.
i. Perform contractor employee payroll interviews and review contractor payroll statements for compliance with Davis-Bacon Act requirements.

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j. Maintain communication link between the contractor, airport staff, and airport users.
k. Provide contract administration services, i.e. submittal review and processing through the FAA. Prepare contractor pay requests and sponsor-completed, FAA reimbursement applications.
l. Provide project close-out services. Prepare Final Engineer's Report, Record Drawings, and completion certification. Deliver project documents to the Owner.

Owner Participation and Information

Owner shall provide the following during the proposed projects:

a. Designate contact person to represent Airport during design, approval, and construction phases.
b. Provide access to the project during the preliminary and final design phases.
c. Provide copies of "drawings of record," engineer's reports, and geotechnical reports of existing facilities.
d. Provide plan review input at each stage of development.
e. Provide information re: environmental issues, construction phasing and scheduling constraints.

JOHN A. SMITH, Project Engineer

Education:
B.S., Civil Engineering, 1987
California State Polytechnic University,
San Luis Obispo
A.A., Business Management
El Camino College, Torrance

Professional Societies:
Association of California Airports (ACA)
Nevada Airports Association (NvAA)
American Society of Civil Engineers (ASCE)
American Water Works Association (AWWA)
American Public Works Association (APWA) Past President, Central Coast Chapter
California Construction and Industrial Materials Association (CALCIMA)

Registration:
Registered Civil Engineer, California - R.C.E. 46852

Experience:

Mr. Smith has 24 years of airport and general civil design, construction inspection, construction management, and program management experience in positions for a variety of undertakings. Engagements have been with public and private entities, agencies, corporations, and individuals. Mr. Smith is effective at securing and managing FAA and Caltrans grants for the betterment of airport clients. He has a proven track record of working through challenging design and political constraints, seeking positive and acceptable compromise with forward motion.

2003-present, Owner — Tartaglia Engineering, Atascadero, CA
Project management includes client representation with the FAA, Caltrans-Division of Aeronautics, and other agencies. Grant development and management.

2000-2003, Project Manager — Tartaglia Engineering , Atascadero, CA
Manage development of project plans, construction drawings, and contract documents. Field engineering, construction inspection, and construction project management. Presented to boards and councils and at public hearings and workshops.

1987-2000, Draftsman & Project Engineer — Skyway Engineering, Santa Maria, CA
Civil design of airport improvement projects (runway and taxiway rehabilitation, hangar development, above-ground fuel facility, and storm drain facilities including detention basins). Preparation of contract documents including technical specifications.

1984-1987, Roadmaster — Burlington Northern Railroad, Spokane, WA
Managed track maintenance and construction gangs specializing in tie replacement, rail replacement, track surfacing, track undercutting, turnout construction, and vegetation control.

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ROBERT C. TARTAGLIA, Project Engineer

Education:
B.S., Civil Engineering, 1972
California State University, Fresno
B.S., Mechanized Agriculture, 1960
California State Polytechnic University,
San Luis Obispo

Professional Societies:
American Society of Civil Engineers (ASCE)
American Public Works Association (APWA)
Southwest Chapter of American Association of Airport Executives (SWAAAE)

Registration:
Registered Civil Engineer, California - R.C.E. 24084
Registered Civil Engineer, Oregon - C9086
Registered Civil Engineer, Nevada - 015655

Experience:

Mr. Tartaglia has 45 years of civil engineering experience including 7 years with the California Department of Transportation and 10 years with McGlassen & Associates of Fresno. He has been an owner and partner in the firm of Tartaglia Engineering since its formation in 1982.

1982-2007, Owner, *2003-2011*, Project Engineer — Tartaglia Engineering, Atascadero, CA
As Project Engineer, Mr. Tartaglia was responsible for the design, preparation of plans, specifications, and contract administration during the construction phase of more than 50 major projects. Projects assigned to and completed under his direction include: roadway and highway construction, airport improvements, assessment districts, recreational facilities, and water, sewer, and storm drain improvements. Mr. Tartaglia has been responsible for coordinating design surveys and supervising construction surveying since the foundation of the firm. He has represented clients at city councils, boards of supervisors, planning commissions for meetings and hearings.

1972-1982, Project Engineer — McGlassen & Associates, Fresno, CA
Mr. Tartaglia's duty as Project Engineer required plan and specification preparation, and contract administration. He assisted and managed roadway and highway construction, airport improvements, assessment districts, recreational facilities, and water, sewer, and storm drain improvements.

1961-1968, Engineering Technician — California Department of Transportation
Mr. Tartaglia served as Instrument Man and Party Chief in the Construction Department where he performed topographic surveying for design, layout and construction staking for freeway construction, roadway construction, bridge layout and drainage improvements.

SCOTT A. KOPE, Professional Engineer

Education:
B.S., Civil Engineering, 1995
California State Polytechnic University, San Luis Obispo

Professional Societies:
American Society of Civil Engineers (ASCE)

Registration:
Registered Civil Engineer, California - R.C.E. 59537

Experience:

1999-Present, Professional Engineer — Tartaglia Engineering, Atascadero, CA
After passing the P.E. Exam in 1999, Mr. Kope's duties expanded to Design Engineer on airport projects. He has designed runway overlays, rehabilitation and extension projects and a helipad expansion. An air cargo ramp reconstruction, graded safety areas, commercial taxiways and holding aprons. Mr. Kope has prepared site grading and drainage plans for wineries, commercial and residential subdivisions, performed hydraulic calculations, sedimentation analysis, design and quantity estimates. He has designed storm drain systems for phased mining and mining reclamation plans. He has prepared drainage master plans for airports. In the field he has worked as a surveyor for design and construction phases and acted as Project Engineer and Inspector. Mr. Kope is computer literate in Cad software (including AutoCad Land Desktop and Civil 3D), in hydrology/hydraulic modeling software, and word processing and spreadsheet software.

1995-1999, Assistant Civil Engineer — Tartaglia-Hughes Engineering, Atascadero, CA
Mr. Kope's early work used Land Desktop for grading and drainage plan design. He assisted with design of airport projects, public and private roads, sewer and water systems, hydrologic calculations, topographic and construction surveying, earthwork quantity calculations, and engineering estimates.

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BRETT J. DOLAN – Professional Engineer / Resident Engineer / Construction Inspector

Education:
B.S. Civil Engineering, 2004, California State University Chico

Registration:
Registered Civil Engineer, California – R.C.E. 72296

Experience:

2010 to Present, Project Engineer — Tartaglia Engineering, Atascadero, CA
Mr. Dolan's responsibilities include contract and construction management of public airport projects.

2007 to 2010, Assistant Engineer/Construction Manager — Penfield & Smith, Santa Barbara, CA
Mr. Dolan's responsibilities included contract and construction management of public and private projects. SWPPP inspections and design of underground utilities, roads, as-built and traffic control plans using Civil 3D.

2004-2007, Assistant Engineer — Coast Valley Testing, inc., Lompoc, CA
Typical responsibilities included foundation design, structural foundation design, retaining structures, and inspection of structural components and underground utility inspection.

ROBERT A. WALLACE – Contract Inspector

Education
Engineering courses, Fresno City College, Fresno, CA
Construction surveying, United States Army

Computer Skills
Microsoft Word and Microsoft Excel

Experience

2005 to 2010, Resident Engineer/ Construction Inspector — Tartaglia Engineering, Atascadero, CA
Mr. Wallace is responsible for airport project construction inspection and contract administration, on many large scale airport improvement projects. His work includes materials submittals, change orders, payroll certification, daily, weekly and monthly reports, inspection, contractor/ client meetings.

1971 to 2004 , Resident Engineer/Construction Inspector — Fresno County Dept. of Public Works
Mr. Wallace's work projects include roads, culverts, sewer and water systems. Responsibilities include field inspection services and contract compliance using plans, special provisions, contract change orders and CALTRANS standard specifications. Document preparation included contractor's work progress, pay estimates, weekly statement of working days, and daily reports.

DON W. MINYARD, Contract Inspector

Education

Engineering courses, Fresno City College, Fresno, CA
Construction surveying, United States Army

Computer Skills
Microsoft Word and Microsoft Excel

Experience

Mr. Minyard has over 42 years of civil construction and engineering related experience.

2006 – Today, Resident Engineer/Inspector — Tartaglia Engineering, Atascadero
Mr. Minyard has provided construction inspection and construction management services on several airport improvement projects over the last two years.

2002 - 2006, Resident Engineer/Inspector — Mendoza & Associates, San Francisco
As a contract inspector, Mr. Minyard worked out of the Fresno office of Mendoza & Associates, performing construction inspection services on highway projects. Projects of significance during this period include the rehabilitation of Highway 58 from General Beale Road to Caliente, west of Tehachapi, and the rehabilitation of Highway 178 approximately six miles west of the mouth of Kern Canyon.

1999 – 2002, Construction Inspector — California Department of Transportation, District 6, Fresno
Mr. Minyard acted as construction inspector on the Highway 58, Mojave Bypass project.

1958 – 1998, Resident Engineer — California Dept. of Transportation, District 5, San Luis Obispo
Mr. Minyard's experience continued in the construction materials arena, and then shifted to the Right-of-Way Engineering Department where he performed and prepared engineering calculations and mapping to support right-of-way acquisitions for future highway improvement projects. During the remainder of his time (67-98), Mr. Minyard was the lead inspector and acting RE for several highway projects including the Highway 101, Santa Barbara cross-town freeway endeavor. This was a significant effort and responsibility, and included over nine months of off-shift work.

1956 – 1958, Resident Engineer — California Dept of Transportation, District 4, San Francisco
Mr. Minyard started his construction services career at the San Francisco District office where he gained knowledge and experience in the areas asphalt pavement and soils. As both a lab and field technician, Mr. Minyard performed construction materials testing for asphalt and concrete pavements, aggregate bases, and native earth materials. He gained knowledge in asphalt pavement mix designs and in construction techniques for these primary materials.

Attachment to Submission BO118 (Raymond Carlson, J.G. Boswell Company (Atty. for), Griswold, LaSalle, Cobb, Dowd & Gin LLP (GLCDG), October 13, 2011) - Carlson_Letter_Attachments.pdf - Continued

Supplemental Information

1. Information regarding fees, insurance and other miscellaneous requirements are listed below:

   A. Fee proposals will be provided in response to specific scope of services. Otherwise, the firm works on a time and materials basis, at rates identified on the enclosed Fee Schedule
   B. Insurance certifications can be prepared and provided in accordance with any Owner requirements.
   C. Tartaglia Engineering is not a MBE or WBE firm. If selected, we intend to perform all the work with our own forces and with the assistance of pre-identified and pre-approved sub-consultants as may be required by each specific project.

2. Since the formation of Tartaglia Engineering in 1982, the firm has provided engineering services to 30 different public and private airports and airfields throughout the San Joaquin Valley, the Salinas River Valley, and the central coastal area of California.

3. Established in 1982, Tartaglia Engineering is a sole proprietorship firm based in Atascadero, California. All correspondence to the Tartaglia Engineering should be sent to the following:

   Tartaglia Engineering
   P.O. Box 1930
   Atascadero, CA 93423
   Phone: 805-466-5660
   Fax: 805-466-5471

   Our street address in Atascadero is
   7360 El Camino Real, Suite E.

4. Tartaglia Engineering maintains field offices in Santa Maria, Tulare, and Salinas, California. These offices provide a base of operations when working in these geographical areas. They are exceptionally valuable during the construction phase of our airport maintenance and development projects. Thank you for your consideration.

Submission BO119 (Robert Dowd, J.G. Boswell Company (Atty. for), Griswold, LaSalle, Cobb, Dowd & Gin, L.L.P. (GLCDG), September 16, 2011)

Robert M. Dowd*
Robert W. Gin*
Randy L. Edwards
Jim D. Lee
Jeffrey L. Levinson*
Raymond L. Carlson
Ty N. Mizote*
Michael R. Johnson*
Steven S. Dias
Robin M. Hall
Mario U. Zamora
Laura A. Wolfe

*a Professional Corporation

Griswold LaSalle
Cobb Dowd & Gin L.L.P.

G·L·C·D·G

ATTORNEYS
A California Limited Liability Partnership including Professional Corporations
111 E. SEVENTH STREET
HANFORD, CA 93230
Telephone: (559) 584-6656
www.griswoldlasalle.com

Lyman D. Griswold
(1914-2000)
Michael E. LaSalle
(Retired)
Steven W. Cobb
(1947-1993)

09-16-11P01:01 RCVD

MEMORANDUM

TO: High Speed Rail Authority - Board of Directors

FROM: Robert M. Dowd
Griswold, LaSalle, Cobb, Dowd & Gin, L.L.P.

DATE: September 14, 2011

RE: Fresno to Bakersfield HSR Draft EIR/EIS Extension of Comment Period

Enclosed are nine (9) identical original letters addressed to the Board of Directors regarding the above referenced matter. Please provide each Board Member with one (1) original copy.

Thank you.

Robert M. Dowd*
Robert W. Gin*
Randy L. Edwards
Jim D. Lee
Jeffrey L. Levinson*
Raymond L. Carlson
Ty N. Mizote*
Michael R. Johnson*
Steven S. Dias
Robin M. Hall
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G·L·C·D·G

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Lyman D. Griswold
(1914-2000)
Michael E. LaSalle
(Retired)
Steven W. Cobb
(1947-1993)

September 14, 2011

VIA FAX 916-322-0827 & U.S. MAIL

Board of Directors
CALIFORNIA HIGH SPEED
RAIL AUTHORITY
770 L Street, Suite 800
Sacramento, CA 95814-3359

Re: Fresno to Bakersfield HSR Draft EIR/EIS Extension of Comment Period

Dear Chairman and Members of the Board:

This letter follows up our September 8, 2011 letter submitted on behalf of J.G. Boswell Company which requested an extension of the comment period on the above Draft EIR/EIS for at least 6 months, through mid-February 2012. In our prior letter we pointed out:

> This matter requires Board, rather than administrative, attention, and, accordingly, we request this matter be placed on the agenda for a special meeting at the Board's earliest convenience. As the Board's next regularly scheduled meeting is not until September 22, 2011, the urgency of this issue demands it be dealt with before then.

This request would entail the Board holding a special meeting prior to the September 22, 2011 regularly scheduled Board meeting. To date, we have received no reply to our request for such a special meeting.

We did learn on September 12, 2011, that for unknown reasons the September 22, 2011 Board meeting was removed from the Board's meeting schedule. No other meeting is now scheduled until the November 3, 2011 Board meeting. The November 3, 2011 date is well after the now scheduled October 13, 2011 close of the comment period.

BO119-1

The cancellation of the September 22, 2011 Board meeting violates the First Amendment petition rights of all members of the public, because if no special meeting is scheduled, there will

Submission BO119 (Robert Dowd, J.G. Boswell Company (Atty. for), Griswold, LaSalle, Cobb, Dowd & Gin, L.L.P. (GLCDG), September 16, 2011) - Continued

be no opportunity to personally appear before and address the Board prior to close of the comment period. Cancellation of the September 22, 2011 meeting underscores the acute due process infringements that are occurring and continuing to occur on account of the Authority's manner of handling the CEQA process for this project.

Very truly yours,

GRISWOLD, LaSALLE, COBB,
DOWD & GIN, L.L.P.

By: _____
ROBERT M. DOWD

Response to Submission BO119 (Robert Dowd, J.G. Boswell Company (Atty. for), Griswold, LaSalle, Cobb, Dowd & Gin, L.L.P. (GLCDG), September 16, 2011)

BO119-1

After reviewing comments received on the Draft EIR/EIS, the Authority and FRA decided to recirculate the document and notified the public of this decision in October 2011. The public was afforded the opportunity to personally appear before and address the Board before the close of the comment period for the Revised DEIR/Supplemental DEIS, which was October 19, 2012.

Submission BO120 (Joe Machado, Joe Machado Dairy/Farm, October 12, 2011)

CALIFORNIA High-Speed Rail Authority

RECEIVED 10/12/2011 CV

Comment Card
Tarjeta de Commentarios

Fresno to Bakersfield High-Speed Train Section
Draft Environmental Impact Report/ Environmental Impact Statement (EIR/EIS)
Public Hearings
September 2011
Please submit your completed comment card at the end of the meeting, or mail to:
Fresno to Bakersfield DEIR/EIS Comment, 770 L Street, Suite 800, Sacramento, CA 95814

La Sección de Fresno a Bakersfield del Tren de Alta Velocidad Proyecto de Informe de Impacto Ambiental/ Declaración de Impacto Ambiental (EIR/EIS)
Audiencias Públicas
Septiembre del 2011
Por favor entregue su tarjeta completada al final de la reunión, o envíela por correo a la siguiente dirección:

The comment period is from August 15 to September 28, 2011. Comments must be received electronically, or postmarked, on or before September 28, 2011.

El periodo de comentario es del 15 de Agosto al 28 de Septiembre del 2011. Los comentarios tienen que ser recibidos electrónicamente, o matasellados, el o antes del 28 de Septiembre del 2011.

Name/Nombre: Joe Machado
Organization/Organización: Joe Machado Dairy / Farm
Address/Domicilio: 8800 Lansing avenue
Phone Number/Número de Teléfono: 559 - 584 - 3884
City, State, Zip Code/Ciudad, Estado, Código Postal: Hanford CA 93230
E-mail Address/Correo Electrónico:
(Use additional pages if needed/Usar paginas adicionales si es necesario)

BO120-1 My main concern is the HSR splitting my property (600 acres) in an 80/20 split with a dairy farm on the 20% side with NO access to the other 80%. I can not harvest feed for my animals without going 10 miles round trip to the other side. This will incure costs for years to come. The distruction of 2 irrigation wells will kill 160 acres of feed productions.

Response to Submission BO120 (Joe Machado, Joe Machado Dairy/Farm, October 12, 2011)

BO120-1

Refer to Standard Response FB-Response-GENERAL-04, FB-Response-AG-06, FB-Response-AG-02, FB-Response-AG-04.

See the Revised DEIR/Supplemental DEIS, Volume I, Section 3.12, Impact SO #16, and Volume II, Appendix 3.14-B, for impacts on confined animal agriculture.

Submission BO121 (Tony Mattos Jr., Kansas Holstein Dairy, August 29, 2011)

Kansas Holstein Dairy
Tony Mattos, Jr. & Ernestine Mattos
8480 Kansas Ave. - Hanford, CA 93230
Phone: 559-685-0121 Fax: 559-582-0688

August 19, 2011

Joseph Szabo, Administrator
Federal Railroad Administration
1200 New Jersey Avenue, SE
Washington, DC 20590

Re: Request for Extension of EIR/EIS Comment Period-Fresno to Bakersfield Section

Dear Mr. Joseph Szabo:

Attached is a letter, I wrote to Mr. Umberg and the Board Members. It's regarding extending the comments, from 45 days to 90 days or until November 10, 2011.

The High Speed Rail, just in around us, is going through 4 Dairy/Farms. It will have Tremendous effect on all 4. Not counting others, in it's alignment.

Please help, in any way possible. The High Speed Rail, is going to hurt our business and possibly destroy it. Times are hard enough and our life has been on a Dairy/Farm.

Please read the attached letter and HELP US !!!

Yours Truly,

Tony Mattos Jr.

Tony Mattos, Jr.
Kansas Holstein Dairy

BO121-1

Kansas Holstein Dairy
Tony Mattos, Jr. & Ernestine Mattos
8480 Kansas Ave. - Hanford, CA 93230
Phone: 559-685-0121 Fax: 559-582-0688

August 19, 2011

Thomas J. Umberg, Chairperson
Board of Directors
California High Speed Rail Authority
770 L Street, Suite 800
Sacramento, CA 95814

Re: Request for Extension of EIR/EIS Comment Period-Fresno to Bakersfield Section

Dear Mr. Umberg and Board Members:

We are asking for an Extension of EIR/EIS, to be able to have time to read, comprehend it and to be able to respond. It's such a large document. Please change from a 45 Day comment period to a 90 Days, or Until November 10, 2011.

It took my wife and I, 15 years to build up, our Dairy/Farm, to what it is now. Don't you agree, it's fair of us to ask for the extension. High Speed Rail wants to come in and take away, what we worked so hard for. Building a Freestall Barn, working our farm grounds to what they are now. Our ground, that your taking away, is what we use to grow our crops and feed our animals.

Dairy/Farms took a hard hit in 2008 and continue to. Some Dairyman have lost their Dairy/Farms, due to the hard hit. The Stress of just that, some Dairyman took their own lives (suicide). The stress of dealing with the economy and other issues alone is a lot.
The High Speed Rail situation puts such Tremendous Stress on our lives. It is our Lively Hood, it's what we know, do and how we live our daily lives.

The impacts, High Speed Rail, is doing to our Dairy/Farm, is Extreme to Us. It's going to impact our farm ground, spraying ability, well, cattle, pipe lines, put angles on our farm ground and with the cost of commodities, we count on our farm ground for feed. I know you don't or may not understand, due to the fact, it is not impacting your life.

Again, I don't think we are asking a lot, Mr. Umberg and Board of Directors. Please think about what impacts, High Speed Rail, is putting on us and all of those, along the alignment.

Yours Truly,

Tony Mattos Jr.

Tony Mattos, Jr.
Kansas Holstein Dairy

Response to Submission BO121 (Tony Mattos Jr., Kansas Holstein Dairy, August 29, 2011)

BO121-1

Refer to Standard Response FB-Response-GENERAL-07.

Submission BO122 (Jim Crisp, Kings County Farm Bureau (KCFB), October 3, 2011)

10-03-11P03:04 RCVD

Kings County Farm Bureau

870 Greenfield Avenue • Hanford, California 93230
Telephone (559) 584-3557 • FAX (559) 584-1614 • www.kcfb.org

September 27, 2011

Chairman Umberg and Members
Board of Directors
California High Speed Rail Authority
770 L Street, Suite 800
Sacramento, CA 95814-3359

RE: Request for Extension – Public Comment Period –
Fresno to Merced/Merced to Bakersfield HSR Draft EIRs

Dear Chairman Umberg and Members of the Board,

BO122-1

On behalf of its membership and the affected public, the Kings County Farm Bureau ("KCFB"), formally requests that the California High Speed Rail Authority ("Authority") extend the period for public comment on the two draft environmental impact reports ("DEIRs") recently released for public review as to the proposed Merced to Fresno segment and the proposed Fresno to Bakersfield segment of the proposed California High Speed Rail ("HSR") system. Consistent with the letters on behalf of the J.G. Boswell Company and the California Farm Bureau Federation, and others, that the Authority recently received on this subject, KCFB requests an extension of the comment period that would allow for 6 months of review.

The Kings County Farm Bureau is a non-governmental, non-profit organization whose membership consists of nearly 800 farm, ranch and agribusiness families. For our members and the affected public, meaningful review and discussion of 30,000 pages of DEIR documents simply cannot occur on a 60-day timeline. The DEIRs are not user friendly and are difficult for the average farmer to access and review.

As massive and expensive as HSR is, and because many of its impacts are irrevocable, the Authority should reach beyond minimum statutory requirements for public environmental review. As a multi-billion dollar piece of public infrastructure that would be permanent and would have a long and broad footprint upon California's agricultural landscape, it should not be said the Authority rushed to final design and construction. With this in mind, KCFB requests that the Authority keep open public review of the DEIRs for a period of 180-days.

Sincerely,

Jim Crisp
President

Response to Submission BO122 (Jim Crisp, Kings County Farm Bureau (KCFB), October 3, 2011)

BO122-1

Refer to Standard Response FB-Response-GENERAL-07.

Submission BO123 (Marvin Dean, KMCA / SJVBCA, September 29, 2011)

Fresno - Bakersfield - RECORD #335 DETAIL

Status :	Action Pending
Record Date :	9/29/2011
Response Requested :	
Stakeholder Type :	Business Opportunity Notices
Submission Date :	9/29/2011
Submission Method :	Website
First Name :	Marvin
Last Name :	Dean
Professional Title :	Chairman
Business/Organization :	KMCA / SJVBCA
Address :	
Apt./Suite No. :	
City :	Bakersfield
State :	CA
Zip Code :	93303
Telephone :	661-747-1465
Email :	marvindeanllc@sbcglobal.net
Email Subscription :	Bakersfield - Palmdale, Fresno - Bakersfield, Merced - Fresno, Business/Vendor Opportunities
Cell Phone :	
Add to Mailing List :	Yes

BO123-1

Stakeholder Comments/Issues :

I request my written comment to be apart of my spoken comment raise at the Bakersfield hearing on Sept. 22,2011. My remark concern Draft EIR/EIS Report section 3.12 Socioeconomics, Communities, and Environmental Justice impact on minority and low-income populations adverse effects, air quality particulate matter, noise and vibration during construction, EMF / EMI exposure from electrical facilities, existing communities displacement impacts, visual disturbance & nuisance during construction, disruption established communities, loss of affordable rental housing, economic effect loss businesses & community jobs, no access for appropriate training for jobs with high speed rail project, displacement of low-income or unemplyed community members, poor outreach to EJ communities for public participation many resident unaware of HSR project. After reviewing EIR report and reading staff summary of mitgation overview both adverse effect and benefical; we are requesting HSR provide more mitgation to address adverse effect this projject will cause to EJ low-income & minority residents and SBE/DBE/MBE/WBE business owner. Recommend; CHRA take concerte step to in sure the project will beneficial EJ low-income & minority residents with Jobs opportunities and (EJ) SBE/DBE/MBE/WBE business owner contracting opportunities for HSR project; We believe for this to happen HSR will need to take step to removal barreler that prevent them; Their need to training for person in these community that seeking HSR construction Jobs and smaller minority & disadvanage firms training how do public sector project; HSR may want to consider partnering with newly form San Joaquin Valley Small Business Construction Academy that help get firms Ready & Able for Prime Contractors / HSR sub- contracting. Also their need to be an owner bonding & insurance program, provide relocation assistance for both low-income tenants and homeless resident that may be force to move. We believe Jobs & Contracts would provide (EJ) mitgation beneficial for adverse effect cause by this HRS project.
I live in a Bakersfield EJ communities, serve on the San Joaquin Valley Air Polluation Control District / Environmental Justice Advisory Committee and know first the concern of central residents living in these EJ communities, I support the HSR projects and offer these recommendation and comment in good faith. This action will help build better support for HSR project in these communities. If you additional question I can be contacted @ 661-747-1465.

EIR/EIS Comment : Yes

Response to Submission BO123 (Marvin Dean, KMCA / SJVBCA, September 29, 2011)

BO123-1

Refer to Standard Response FB-Response-GENERAL-18.

Jobs created by construction and operation of the project would likely be filled by workers in the region. To help offset any disproportionate effects, the Authority has approved a Community Benefits Policy, which supports employment of individuals who reside in disadvantaged areas and those designated as disadvantaged workers, including veterans returning from military service. The policy will help to remove potential barriers to small businesses, disadvantaged business enterprises, disabled-veteran business enterprises, women-owned businesses, and microbusinesses that want to participate in building the high-speed train system. Under the Authority's Community Benefits Policy, design-build construction contracts will be required to adhere to the National Targeted Hiring Initiative, which states a minimum of 30% of all project work hours will be performed by national targeted workers and that a minimum of 10% of national targeted workers hours will be performed by disadvantaged workers.

According to the National Targeted Hiring Initiative, disadvantaged workers either live in an economically disadvantaged area or face any of the following barriers to employment: being a custodial single parent, receiving public assistance, lacking a GED or high school diploma, having a criminal record or other involvement with the criminal justice system, being chronically unemployed, being emancipated from the foster care system, being a veteran, or being an apprentice with less than 15% of the required graduating apprenticeship hours in a program.

The Community Benefits Policy will supplement the Authority's Small Business Program, which has an aggressive 30% goal for small-business participation, and includes goals of 10% for disadvantaged business enterprises and 3% for disabled-veteran business enterprises.

Submission BO124 (James Murdock, La Cumbre Management (on behalf of the owners of Lazy H Mobile Ranch), September 28, 2011)

LCM

La Cumbre Management

100 N. Hope Avenue, Suite 1
Santa Barbara, CA 93110-1686
(805) 569-0048
FAX (805) 569-7099

September 27, 2011

California High Speed Rail Authority
Fresno to Bakersfield Draft EIR/EIS Comment
770 L. Street, Suite 800
Sacramento, CA 95814

Re: Fresno to Bakersfield Draft EIR/EIS Comment

To Whom It May Concern,

I represent the owners of Lazy H Ranch Mobilehome Park (the "MHP") located at 2500 Jewetta Avenue in Bakersfield. The MHP is adjacent to the proposed route of the high speed train. The planned route involves the removal of a number of spaces in the MHP due to encroachment.

The residents of the MHP, each of whom owns his/her "Mobilehome" and leases a rental space in the MHP on which the Mobilehome is located, are very concerned about the prospect of having a high speed train pass in close proximity to the MHP and their individual dwellings. In response, they have submitted a petition expressing their views. The MHP owners well understand and sympathize with their concerns.

BO124-1

1. The Draft EIR/EIS and the Authority's process Fail to Meet CEQA's Informational Requirements

EIRs must be organized and written in a manner that will be meaningful and useful to decision makers and to the public. Public Resources Code § 21003. According to the CEQA Guidelines, the text in a draft EIR should normally be less than 150 pages, or, *for projects of unusual scope or complexity*, less than 300 pages. Guideline § 15141. In fact, the text of this EIR/EIS is over 1,550 pages and, with appendices, is 3,300 pages.

While I well understand that the practice has become EIRs that are much longer than the CEQA Guidelines call for, the point of an EIR is to be of assistance to decision-makers and the public in evaluating a project – not to overwhelm everyone with minutia that causes "loss of the big picture." The Authority's task in preparing this EIR/EIS is certainly large and complicated, but the draft EIR/EIS should not be so unwieldy in the text and, at the same time, so generic and uninformative in its summary.

Mark Twain once apologized to a friend that he didn't have time to write a short letter, so he had written a long one. Like so many other EIR/EISs, this draft EIR/EIS appears to be a victim of time constraints, rather than being directed at quality analysis and quality writing that allows fulfillment of the informational and public participation purposes of an environmental analysis.

This EIR/EIS fails at the outset in making meaningful overview information reasonably and easily available to decision-makers and the public. For example, the substantive points mentioned in Part 3, below, relating to the draft EIR/EIS's analysis of electro-magnetic forces, noise and vibration are not isolated to the MHP and its residents: these are impacts on human beings that will occur ***over and over*** throughout urbanized areas along the route of the proposed high speed rail line, putting aside issues along the entire route as to fauna. It is not too much to ask that easily-accessible statements concerning "thresholds of significance" on human beings for electro-magnetic forces, noise and vibration, be made as to each of these potential environmental effects, which then allow maps and charts to be read with understanding by decision-makers and the public. In the absence of such statements, the draft EIR/EIS contains information, *but not an analysis*.

BO124-2

In addition, the Authority's process itself has been less than helpful. The Draft EIR/EIS was available at selected locations throughout the state. However, given the length and complexity of the document, it was not feasible to review the entire document at one of the locations. I personally requested a copy of the report at the High Speed Rail office in Sacramento. In response, I was told that it was only available on a DVD. Proper review in this format was contingent upon having a computer capable of reading the DVD. In addition, given the size and manner in which it was organized, it was extremely difficult to access the information contained in the report. An alternative was to pay to have the contents of the DVD printed at a cost in excess of $2,000.00. None of the above options are designed to facilitate public access to the information contained in the report.

I also requested to speak with someone at the Sacramento office. I was informed that no one was available that was familiar with the report. I was asked to sign a log and was told that someone would call me to answer any questions I may have. After 19 days, that has not happened. Again, there appears to be a lack of desire or intent to make sure the public is fully informed. At the public hearing in Bakersfield, each speaker was limited to three minutes. Given the magnitude of the project, three minutes to comment on a document that encompasses thousands of pages is *de minimus* at best.

BO124-3

2. Scope of Analysis in Draft EIR/EIS – the EIR/EIS Does Not Analyze the "Whole of the Project."

With respect to the project itself, the draft EIR/EIS addresses impacts of a high speed rail route from Fresno to Bakersfield only.. Such an approach fails to follow CEQA.

CEQA requires that "the whole of the project" be analyzed, and prohibits segmenting larger, multi-phase projects into multiple limited analyses in order to minimize total impacts of the project. Is it the case that all that the Authority is ever going to propose is the Bakersfield to Fresno segment? That certainly is not the case, as is indicated in the Authority's own statements. As such, the EIR/EIS should contain at least some environmental analysis of the route or routes that high speed rail might take from San Diego to Los Angeles through the Central Valley to Sacramento and from Sacramento to San Francisco. While speculation should be avoided, it is not beyond meaningful discussion for an analysis to contemplate the entire route from San Diego to San Francisco.

The entire project should be evaluated in terms of economic feasibility, as well as environmental impact. It makes no sense to complete one segment from Bakersfield to Fresno if there is insufficient funding available to complete the entire high spped rail project or too great of an environmental impact in another section or sections that would end up terminating the project.

In fact, the primary goals of a high speed rail line do not relate principaliy to a Bakersfield to Fresno route. If (as appears likely in the current government funding crisis, both in Sacramento and Washington, D.C.), only a segment of high speed rail might be ultimately constructed, then such segment should be constructed where it would carry out the purposes of reducing highway congestion – such as between San Francisco and Sacramento or between Los Angeles and San Diego. Should the project not be completed, the central valley of California should not endure the environmental impact inherent in the construction of only that portion of the high speed rail line, where the purposes of the high speed line would only minimally be acheived.

3. Electro-Magnetic, Noise and Vibration Impacts at Lazy H Mobilehome Park

At the Lazy H MHP, the centerline of the existing tracks is a mere 45 to 50 feet from homes in the mobilehome MHP. It appears that the new easement will result in removal of between 12 and 23 or more homes from the MHP depending on the final alignment, thereby implying that the high speed train will be even closer to the remaining homes along that row. As such, there is the potential impact on the residents from electro-magnetic forces, noise and vibration. While those closest to the rail will be the most severely impacted, for reasons enumerated below, it is my belief that every home in the MHP will be impacted in a significant manner.

Submission BO124 (James Murdock, La Cumbre Management (on behalf of the owners of Lazy H Mobile Ranch), September 28, 2011) - Continued

I know little about electro-magnetic forces, and (as mentioned in Part 1, above), I didn't learn much about electro-magnetic forces from the draft EIR/EIS because the discussion failed to identify thresholds of significance that I could find or carry out an analysis that was informative.

In contrast, I do know something about noise and vibration issues in mobilehome parks, based on my forty years experience in managing mobilehome parks for owners and working within the manufactured housing industry.

Manufactured housing (mobilehomes) differs from standard "stick-built" housing in terms of construction and placement. The manufactured homes, especially those built prior to 1978 (as is the case within Lazy H), have walls that are thinner and more poorly insulated than those of conventional housing. They do not rest on a concrete foundation, but rather are set on piers, thereby suspending them above the ground. Because of these two factors, the mobilehomes are more susceptible to both noise and vibration impacts within the living space.

BO124-4

The report indicates projected dBA levels of 64.2 for noise at a neighboring property over two hundred feet away from the current centerline of the rail system and VdB levels of 91 for a space in Lazy H contiguous to the easement. The report also indicates that at certain threshold levels, mitigation measures may be implemented to lessen the impact of noise and vibration. However, mitigation will only be used when it is cost effective. There is a stated limit of $45,000 per dwelling unit for noise and vibration mitigation. Those mitigation efforts will be implemented only if noise or vibration levels can be reduced by a defined amount. In any event, all measures are based on a cost/benefit analysis. This is not an *analysis* of impacts or an *analysis* of mitigation measures.

When the Authority does carry out an analysis, it should expressly adopt commonly-followed thresholds of significance, based on scientific evidence of long term impacts on human beings, and then analyze any special factors. For example, 60 dBA *at the property line* is a common threshold for noise impacts in residential areas for stick-built housing. Thus, it appears that noise impacts would be significant throughout the MHP and the EIR/EIS fails to contain such analysis or to provide any analysis of such impact.

There is a special factor that arises from the nature of manufactured housing – and that is the difficulty of retrofitting effectively. For example, about ten or twelve years ago the FAA did a study on noise reduction for a mobilehome MHP near an airport. Three homes were retrofitted in an effort to reduce the impact of the noise from aircraft flying overhead. The mitigation measures included increased insulation, window replacement, roof replacement and installation of a different type of siding. In the end, the FAA concluded that it was not cost effective to retrofit manufactured housing. Hence, the concern that there will not be significant benefits to justify efforts to reduce noise through the retrofitting of homes at Lazy H.

With respect to vibration mitigation, it should also be noted the same park near the airport is located near a Southern California Gas storage facility. The natural gas is stored underground. Compressors are used to compress the gas and inject it into the ground. Vibration from those compressors affects manufactured homes over 2,000 feet away. Southern California Gas has attempted to mitigate the vibrational impact by installing

BO124-5

different support systems under the affected homes with limited success. It would appear that the cost/benefit of dealing with vibration from a train only 50 feet away would be much less. Another issue is how the vibration from the high spped train would affect the systems that have been used to mitigate some of the gas facility noise.

The following questions should be answered in any final EIR/EIS:

BO124-6

- What is an acceptable level of (threshold of significance for) electro-magnetic emissions generally? Outside in a residential area? Inside a dwelling? What are the electro-magnetic impacts in the MHP under such threshold of significance, both inside and outside the dwelling units?

BO124-7

- What is an acceptable level of (threshold of significance for) noise generally? Outside in a residential area? Inside a dwelling? What are the noise impacts in the MHP under such threshold of significance, both inside and outside the dwelling units?
- What is an acceptable level of (threshold of significance for) vibration generally? Outside in a residential area? Inside a dwelling? What special issues are presented for the safety and stability of pier-supported mobilehomes? What are the vibration impacts in the MHP under such threshold of significance, both inside and outside the dwelling units?•

I would also offer the following comments:

BO124-8

- External factors such as noise, vibration and electro-magnetic fields must be measured both outside and inside of a manufactured home. Such factors should be measured inside at least a few representative mobilehomes (e.g., next to the tracks and at several distrances from the tracks).
- The Authority should adopt a definitive course of action with respect to when and how they are going to implement mitigation measures.

BO124-9

The Draft EIR/EIS indicates that mitigation efforts **may** be utilized. Those efforts are not guaranteed to take place unless they are cost effective. Additionally,the draft EIR/EIS should discuss specific means by which noise and vibration issues for manufactured housing will be addressed, especially the unique nature of the older manufactured homes (mobilehomes) in this MHP.

Finally, even if there is severe noise impact, the report states that only "consideration" of mitigation measures is required. If sound insulation is not possible, feasible or cost-effective, the Authority will **consider** other measures.

BO124-10

4. Condemnation Issue

The Draft EIR/EIS states that, should mitigation efforts not be cost effective, the Authority will consider purchasing noise easements, but without indicating a valuation methodology for noise easements. No mention is made of purchasing electro-magnetic or vibration easements, much less a valuation methodology.

Such an easement-purchase approach likely would be doomed to failure in this MHP, since it appears that what is actually going to be necessary is condemnation of the mobilehomes from their owners and condemnation of the MHP and its business from the MHP owners.

In Lazy H, as with most MHPs, the MHP owner owns the land and improvements, leasing individual spaces to residents who own their mobilehomes. Purchasing noise and/or vibration easements from the homeowners only works for the initial homeowners. They will be able to monetize the impact. This compensates them for the diminution in value to their home. Not having a crystal ball, I do not know if there will be a residual value for homes in the MHP upon resale. It probably depends on the noise and vibration levels. That having been said, assuming there is little or no residual value of the home, there will be no purchasers for the home. One by one, the homes would be removed from the MHP as a direct result of the diminution in value of the individual homes. Empty spaces lack rental income and the economic viability of the MHP will disappear.

In the alternative, if there is residual value to the homes, it is highly likely that the MHP owner will be forced to charge a lower rental rate, again affecting the economic viability of the entire MHP. This dual relationship of mobilehome owner/tenant and MHP owner (landlord) is unique to MHPs. Interestingly, the effects of the high speed rail project may not be immediate, but escalating over time. If only a handful of spaces are vacated each year, the effect appears minimal on the surface. However, as that number increases from year to year, the cumulative effect will result in an empty MHP. This issue needs to be addressed as part of the EIR/EIS report. Any noise, vibration or electro-magnetic easement must take these factors into consideration.

Submission BO124 (James Murdock, La Cumbre Management (on behalf of the owners of Lazy H Mobile Ranch), September 28, 2011) - Continued

BO124-10

While the Authority may find it acceptable to "take" a small portion of the property, any such taking will destroy the economic viability of the community. Having fewer spaces will result in less income. At the same time, there will not be a corresponding reduction in expenses. This is further complicated by the nature of manufactured housing communities (mobilehome parks). There is a symbiotic relationship between the home owners and the property owner. If the homeowners are adversely affected, or even if there is a perceived adverse effect in the community, there is a probability that, over time, the community will gradually lose homes, further destroying the economic viability of the property irrespective of the electro-magnetic, noise or vibration levels.

The bottom line is that the combination of a high speed train and a contiguous manufactured housing community will result in, at the very least, a significant diminution in value of the property. There is a high degree of probability that, over the long term, it would result in the cessation of use as a manufactured housing community.

This project should not be located adjacent to this property. If, in fact, that is the only (or most viable) alternative, then the entire property should be considered for condemnation, not just a small portion.

The EIR/EIS clearly indicates that the Authority is not required to take any action, be it mitigation measures or the purchase of an easement or condemnation payments. Fortunately, the latter would be determined by a court, not the Authority – which appears to be paying lip service to environmental review but not dedicated to mitigating impacts, etc.

Respectively submitted,

James M. Murdock
President

Response to Submission BO124 (James Murdock, La Cumbre Management (on behalf of the owners of Lazy H Mobile Ranch), September 28, 2011)

BO124-1

Refer to Standard Response FB-Response-GENERAL-01.

The assessment of noise, vibration, and EMI/EMF effects is highly technical; therefore, to be accurate, the significance criteria for these environmental disciplines are also highly technical. The EIR/EIS provides a summary of the metrics for analyzing noise, vibration, and EMI/EMF effects to provide context for understanding the significance criteria used in the impact assessment. The EIR/EIS then assesses impacts in these environmental areas and compares the results of those assessments to the significance criteria.

BO124-2

To help facilitate public review of the Revised DEIR/Supplemental DEIS, hard copies of the report were provided at 48 public repositories along the Fresno to Bakersfield corridor. CDs of the report were mailed to those people requesting a copy of the report. All changes from the Draft EIR/EIS and new information presented in the Revised DEIR/Supplemental DEIS were shaded to help facilitate a review of the document. Finally, the original public review period of 60 days for the Revised DEIR/Supplemental DEIS was extended to 90 days.

The Authority apologizes for not returning your call.

A 3-minute limit was set for speakers at the public hearings for the Draft EIR/EIS to ensure that everyone who wished to speak had the opportunity to do so without having to remain at the hearing for an undue length of time. This time limitation was not imposed for the public hearings on the Revised DEIR/Supplemental DEIS.

BO124-3

Refer to Standard Response FB-Response-GENERAL-20.

As discussed in the Revised 2012 Business Plan, the first construction of dedicated high-speed infrastructure for the initial operating system begins in the Central Valley. As with all of the steps, this initial section is being developed to deliver early benefits by leveraging other systems and enabling them to operate on the new high-speed tracks. This can be done without impacts on the design or the integrity of the new infrastructure.

BO124-3

Improved passenger rail service would begin upon completion of the first initial operating section segment by connecting the San Joaquins, Altamont Commuter Express, Sacramento Regional Transit, and the Capitol Corridor (and potentially Caltrain). Through a new, strategic approach, there is also the opportunity for new or improved travel between Bakersfield and Sacramento, Oakland, San Jose, and San Francisco. This expanded Northern California Unified Service could begin operation as early as 2018, with the potential to provide transportation and economic benefits well before fully operational high-speed train service is initiated.

As part of this first step, complementary investments and improvements will be made both to accelerate benefits and distribute them more widely across the state. These investments will be made using the $950 million in Proposition 1A connectivity funding, available Proposition 1A high-speed rail funds, future federal funds, and other sources, and will include investment in the bookends. In Northern California, the long-awaited electrification of the Caltrain corridor will begin under a collaborative program between Bay Area agencies and the Authority. In addition, consistent with the Southern California Memorandum of Understanding, investments, such as upgrading the Metrolink corridor from Los Angeles to Palmdale, will be made in key rail corridors in the southern part of the state.

BO124-4

Refer to Standard Response FB-Response-SO-01.

Mitigation Measure N&V-MM#3 provides that sound barriers may be installed to reduce noise to acceptable levels at adjoining properties. These may include walls, berms, or a combination of walls and berms. The specific type of barrier will be selected during final design, and before operations begin. In addition, Mitigation Measure N&V-MM#3 provides that prior to operation, the Authority will work with communities regarding the height and design of sound barriers, using jointly developed performance criteria, when the vertical and horizontal location have been finalized as part of the final design of the project. Mitigation Measure N&V-MM#8 provides that vibration mitigation measures be installed to reduce operational vibration levels to acceptable levels at adjoining properties. The types of vibration mitigation that may be applied are listed in Table 3.4-32. The specific type of mitigation will be selected during final design, and before

Response to Submission BO124 (James Murdock, La Cumbre Management (on behalf of the owners of Lazy H Mobile Ranch), September 28, 2011) - Continued

BO124-4

operations begin.

BO124-5

Mitigation Measure N&V-MM#8 provides that vibration mitigation measures be installed to reduce operational vibration levels to acceptable levels at adjoining properties. The types of vibration mitigation that may be applied are listed in Table 3.4-32. The specific type of mitigation will be selected during final design, and before operations begin.

BO124-6

People and businesses in California use electric power and radio frequency communications for many purposes and services, in homes, businesses, farms, and factories. The intensive use of electric power and radio
frequency communications in California and in all developed countries has ensured that the potential health effects of electromagnetic fields and resulting currents and voltages on people and animals have been thoroughly studied. As a result, the levels at which electromagnetic fields (EMF) and radio frequency (RF) fields can cause health or behavioral effects are well established. Broadly used international standards were created based on intensive investigation to ensure that:

* EMF and RF fields and resulting stray currents and voltages are measured and controlled.
* Fields do not disturb or injure people or animals.

Section 3.5, Electromagnetic Fields and Electromagnetic Interference, page 3.5-2, of the Draft EIR/EIS identifies several types of EMFs from operation of the proposed HST. The Draft EIR/EIS further states that of these EMFs, the dominant effect is expected to be the 60-Hz AC (alternating current) magnetic fields from the propulsion currents flowing in the traction power system: that is, the OCS and rails.

The Draft EIR/EIS states on page 3.5-12 that EMF exposure to people in nearby schools, businesses, colleges, and residences would be expected to be significantly below the Institute of Electrical and Electronic Engineers
(IEEE) Standard 95.6 maximum permissible exposure (MPE) limit of 9.0 Gauss (G) for the general public. The IEEE Standard applies in all residential areas, both inside and

BO124-6

outside of a dwelling. EMF signals are not attenuated by insulation or most building materials. IEEE Standards have a safety factor built into the MPE limits, so no adverse health effects are anticipated as long as EMF values are below these levels.

BO124-7

Refer to Standard Response FB-Response-N&V-03.

BO124-8

Refer to Standard Response FB-Response-N&V-05, FB-Response-SO-01.

BO124-9

Refer to Standard Response FB-Response-N&V-05.

As stated in Section 3.4.7 of the Revised DEIR/Supplemental DEIS, there are a number of mitigation measures proposed to reduce noise impacts to severely affected receivers. If these measures are found to be infeasible, as could be the case with some manufactured housing, then the Authority would acquire easements in which the homeowners would accept the future noise conditions. This approach is usually taken only in isolated cases where other mitigation options are infeasible, impractical, or too costly.

BO124-10

Refer to Standard Response FB-Response-N&V-05, FB-Response-SO-01, FB-Response-SO-02.

None of the project alternatives would result in the acquisition of homes in the Lazy H Mobile Home Park. The HST right-of-way would be situated in the existing BNSF Railway right-of-way at this location. Please refer to Appendix 3.1-A of the EIR/ EIS for parcel impacts by the project footprint.

The project alignment in the area adjacent to the Lazy H Community has been moved to run along the east side of the BNSF right-of-way. The location of this updated alignment will put the centerline at a distance of at least 78 feet from the eastern property line of

Response to Submission BO124 (James Murdock, La Cumbre Management (on behalf of the owners of Lazy H Mobile Ranch), September 28, 2011) - Continued

BO124-10

the Lazy H Community. As a result, the noise barrier for this alignment would also be located on the east side of the BNSF alignment as opposed to running along the east side of the Lazy H Community.

As stated in Section 3.4.7 of the Revised DEIR/Supplemental DEIS, there are a number of mitigation measures proposed to reduce noise impacts to severely affected receivers. If these measures are found to be infeasible, as could be the case with some manufactured housing, then the Authority would acquire easements in which the homeowners would accept the future noise conditions. This approach is usually taken only in isolated cases where other mitigation options are infeasible, impractical, or too costly.

Mitigation Measure N&V-MM#8 states that vibration mitigation measures may be installed to reduce operational vibration levels to acceptable levels at adjoining properties. The types of vibration mitigation that may be applied are listed in Table 3.4-32. The specific type of mitigation will be selected during final design, and before operations begin.

Submission BO125 (Mike Monteiro, Lakeside Dairy, October 12, 2011)

42

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10-12-11P02:17 RCVD

Lakeside Dairy
8180 Kent Ave, Hanford CA
Owner
Mike Monteiro
3515 Ave 228
Tulare, CA 93274
(559) 786-4075

October 10, 2011

Fresno to Bakersfield DEIR/EIS Comment
770 L Street Suite 800
Sacramento CA 95814

Re: Comments to the High Speed Rail EIR

The proposed location of the high speed rail project cuts diagonally through my property, just missing my corrals and separates a portion of my land which has my shop where I service all my equipment for the dairy and fields.

These are my issues with the EIR that I feel are not properly addressed.

BO125-1

3.14.4.B Important and Protected Farmlands. It is stated (pg 3.14-19) that aerial pesticide applications occur near existing railroad tracks and several Agricultural Commissioners from the local counties are identified.

The Kings County Agricultural Commissioner's office was contacted. Depending on the materials being applied, the required setbacks to sensitive areas could be a ¼ mile or more for aerial applications and 1/8 mile or more for ground applications. There are also re-entry limitations based on materials used. It is the responsibility of the office to verify with testing and mitigations are altered based on results.

After a meeting with HST, it was understood by the county office that some pesticide controls were going to be included by HST. Currently *Section 3.14.5.C Aerial Spraying* (pg 3.14-45) contains no presentation and discussion of the level of pesticide risk for typical materials used, setbacks, or proposed mitigations such as windbreaks or shelterbelts for either crop drift or the risk of passengers of the train for immediately passing through following an application.

An aerial applicator from the Kings County area was contacted. He currently remains ½ mile from the railroad or goes into a holding pattern while a train is in the area and is able to resume applications after it passes. With the proposed frequency of trains of HST (200/day) the ability to apply within ½ mile will be nearly impossible and also raise more concern of the health of the passengers of the train if it is attempted.

Construction of the HST system will also be a sensitive area, requiring a setback from those operations due to exposure to construction personnel. Discussion and mitigations are not address.

BO125-2

3.14.5 Environmental Consequences A. Overview. It is stated (pg 3.14-31) that without HST substantial farmland conversion to accommodate growth in the region would occur. However with HST conversion of farmland to the project will occur but would also provide opportunities to focus future development on already urbanized land and therefore less land will be converted overall.

This argument of more or less prime farmland conversion from agricultural to urban usage is inconsistent throughout the entire document. Studies performed, conclusions, and mitigations proposed are therefore incorrect somewhere. Examples:

Section 3.14.5.B No Project Alternative (pg 3.14-34) describes that under normal decisions of local planning authority 327,000 acres of farm ground will be urbanized within the time period of study.

Section 3.14.5.C Permanent Conversion of Agricultural Land to Nonagricultural Use (pg 3.14-39) a reduction of 118,000 acres (36%) by implementing HST proposals from the 327,000 acres is expected over the No Project Alternative.

However. *Section 3.18.1 Regional Growth - Introduction*, in a section away from the agricultural concerns and mitigations, the following statement is found – *"The BNSF Alternative would result in approximately 9,000 acres of additional growth over the No Project Alternative or an increase of approximately 0.9% more acres of induced urbanization."*

An additional 9,000 acres to the original 327,000 acres is closer to a 2.8% increase rather than the 0.9% quoted, so the baseline of 327,000 acres is not consistent between the *Section 3.14 and 3.18* studies also.

But when you include the approximate 2,200 acres to the 9,000 acres consumed by the basic train system not including bypass alternatives, the HST impact is 3.4% more than the No Project Alternative. If the bypasses are chosen, 3,500 acres (Table 3.14-5) additional to the 9,000 acres, the agricultural land consumed by the train could near a 4.5% increase over the No Project Alternative.

In review of the primary source of the acreage reduction in *Section 3.18*, it is based on encouraging infill of Fresno and Bakersfield station neighborhoods (Hanford station is not included pg 3.18-28) within walking distance of the new stations. The 118,000 acres of reduction quoted in the agricultural section, if equivalent to residential fringe development that it is preventing (4 res/ac & 4.5 people/res), it nears a population count of over 2.1 million people that would be located within walking distance of the two stations. The 118,000 acreage value quoted in Section 3.14 is suspect and an overall increase in acreage because of HST defined in Section 3.18 is more probable.

Submission BO125 (Mike Monteiro, Lakeside Dairy, October 12, 2011) - Continued

BO125-3

Section 3.14.5 Environmental Consequences A. Overview. It is stated (pg 3.14-34) that wind effect on bees and adjacent cropland would be negligible and not affect agricultural productivity including pollination by bees.

What analysis was performed to identify the costs involved with the loss of bees impacting the trains and reduced pollination leading to the loss of crop production? Were mitigations of reduced train trips/day in the daytime hours evaluated for the spring pollination period?

BO125-4

Section 3.14.5.C Temporary Use of Agricultural Land. It is stated (pg 3.14-36) that land needed during construction will be leased for staging and material laydown areas. After construction it will be restored and returned to original condition therefore impacts are negligible and less than significant.

Where does the dirt for the track and bridge embankments come from? If it is the leased land that would not be "returned to original condition". Where construction fill comes from is not mentioned and addressed as to potential impacts to the resulting quality of farmground afterwards such as top soil loss, proximity to high ground waters, etc.

Are the number of road crossings dependant on availability of close proximity of leased land such that the final number of crossings identified in the EIR may be different, affecting travel and safety considerations?

Section 3.12 was not identified here. Is there a mechanism planned but not identified in the EIR to force the leasing of property that has been tabulated in Table 3.14-8? Are there alternate acreages planned as backup?

BO125-5

Section 3.14.5.C Permanent Conversion of Agricultural Land. It is stated (pg 3.14-39) that by encouraging better land use, planning boards could reduce the land used by HST over the No Project Alternative option.

See above discussion about the suspect savings of the 118,000 acres. A more likely condition of significant impact of the additional 9,000 acres identified in Section 3.18 is true. However, looking at Sections 1.0 and 3.18 the 9,000 acres may be underestimated as to actual consumption of land caused by HST with the planned ridership levels. Again review of the analysis is warranted.

The Bakersfield and Fresno stations impact on land by infilling was addressed. Loss of land due to the Hanford station being in agricultural lands was not addressed in Section 3.18 or here. How much additional land will be consumed for the growth projections of relocating passengers to a Hanford station?

How is the HST project able to control those decisions by local boards to maintain the reduced impact to the levels cited? What provisions are provided in HST to prohibit additional growth caused by HST due to availability of commuting to jobs outside of the area? How are the significant impacts going to be addressed in the future when more land is lost than currently calculated occurs?

BO125-6

Section 3.14.5.C Parcel Severance. It is stated (pg 3.14-41) that parcel splits will be alleviated by providing alignment crossings on public roads.

BO125-7

Although much appreciated, the road crossings (bridges) put in place by HST cause major safety concerns that are not identified and mitigations proposed.

Farm equipment road speeds typically are less than 15 mph. Tool bars can range in widths of 20 to 30 feet. Bridges will cause the loss of line of sight to equipment in the road. Once started onto a bridge, equipment cannot move out of the way. This safety issue is amplified in the winter months when fog occurs. These need to become controlled crossings such that collisions will not occur using items such as gates, stop lights, etc.

If someone or something should fall off the bridge, what are the safety mechanisms in place to stop the trains and provide access for rescue?

BO125-8

Section 3.14.5.C Effects on Confined Animal Agriculture. It is stated (pg 3.14-43) that loss of acreage for dairy wastes would require modification of the waste and nutrient management plans and would result in the need to increase offsite disposal or reduced herd size.

BO125-9

Revision to the WMP & NMP plans would be required by regional water board regulations and should be a standard item in the compensation for any dairy that has an associated parcel included in HST. Also, every dairy had to submit a detailed flood protection report if it is inside of a flood zone. These would also have to be revised if the embankments of the train alter flood paths or ponding from the current situation. This could affect more dairies than those already identified by HST. Since the HST path crosses several flood zones, how HST will affect flooding needs to be addressed and identify all the dairies that may be affected.

BO125-10

Loss of land causing offsite disposal or herd reduction is not the only solution. There are other manure management controls that can be incorporated that HST should offer in a compensation package. These could be minor manure management systems or larger systems such as a digester which could also offset greenhouse gases and generate green energy.

BO125-11

Section 3.14.5.C Effects on Confined Animal Agriculture. It is stated (pg 3.14-44) that noise and vibration levels are under the effects of the livestock, however the problems of stray voltage and cattle was not discussed.

Stray voltage is rather instantaneously lethal to cattle. *Section 3.5 Corrosion of Underground Pipelines and Cables and Adjoining Rail* (pg 3.5-13) states "*…but some return current would find a path through rail connections to the ground and through leakage into the ground from the rails via the track ballast.*"

A local company that tests for stray voltage for dairies in the area was contacted. They have not tested a high speed rail system or know of a study performed but stated that the basic principles of the physics involved and the electric propulsion of the train, it is not at all unlikely that this is an issue. Further investigation into stray voltage and mitigations necessary needs to be addressed.

BO125-12

Section 3.14.5.C Wind-Induced Effects. It is stated (pg 3.14-44) that studies summarized by FRA in 1999 determined that from one study the wind generated by the train has a velocity of 10% of train speed at 3 meters (10 ft) and from a different study

Submission BO125 (Mike Monteiro, Lakeside Dairy, October 12, 2011) - Continued

BO125-12

airflow dissipates in less than one second.

With all of the systems in use in Europe and Asia, why is a 12 year old summary of previous studies done by universities back to 1977 used for this evaluation? Is there any current data?

What is provided as the analysis performed is the extrapolation of two different studies, assuming equivalent aspects, and thereby a conclusion. What is presented in the first study amounts to a pressure wave caused by a train going 220 mph pushing air out of its path from a calm not moving condition to a velocity of 32 ft/s at a distance of 10 feet from the train. And then the second study wind "dissipates" in one second. However, it will take a full 2 seconds for the train (660 ft @ 220 mph) to pass any given point before air can even begin to be sucked back to its original location. So what is the definition of "dissipates" used here? How is that relevant? The original volume of air will not be moving back into position at a minimum of 2 seconds after the initial impact with the nose of the train.

Since this affects a gas and not a particle, turbulence is created in pushing air out of the way replacing it with a solid object and then 2 seconds later sucked into the voided space. What is not presented is an evaluation of the turbulence's lasting effects that is important to pesticide spraying namely any drift, or the interaction of opposing trains, or the accumulation of any drift based on frequency of trains.

BO125-13

Section 3.14.5.C Aerial Spraying. It is stated (pg 3.14-45) that all power poles and lines meet height requirements already encountered by aerial spraying.

See previous discussions about spraying in sensitive areas, ventilation intakes for passengers in a sprayed zone, turbulence & drift, setbacks during the construction period. There should be discussion about ground spraying also.

BO125-14

Farm equipment road speeds typically are less than 15 mph. Tool bars can range in widths of 20 to 30 feet. Bridges will cause the loss of line of sight to equipment in the road. Once started onto a bridge, equipment cannot move out of the way. This safety issue is amplified in the winter months when fog occurs. These need to become controlled crossings such that collisions will not occur using items such as gates, stop lights, etc.

If someone or something should fall off the bridge, what are the safety mechanisms in place to stop the trains and provide access for rescue?

BO125-15

Section 3.14.5.C Effects on Confined Animal Agriculture. It is stated (pg 3.14-44) that noise and vibration levels are under the effects of the livestock, however the problems of stray voltage and cattle was not discussed.

Stray voltage is rather instantaneously lethal to cattle. *Section 3.5 Corrosion of Underground Pipelines and Cables and Adjoining Rail* (pg 3.5-13) states "*...but some return current would find a path through rail connections to the ground and through leakage into the ground from the rails via the track ballast.*"

BO125-15

A local company that tests for stray voltage for dairies in the area was contacted. They have not tested a high speed rail system or know of a study performed but stated that the basic principles of the physics involved and the electric propulsion of the train, it is not at all unlikely that this is an issue. Further investigation into stray voltage and mitigations necessary needs to be addressed.

BO125-16

Section 3.14.6.C Mitigation Measures. It is stated (pg 3.14-45) that Ag-MM #1 will identify suitable land for mitigation and purchase agricultural conservation easements from willing sellers at a ratio of no less than 1:1 to preserve Important Farmlands in the amount commensurate with the quantity and quality of converted farmlands.

The HST project consumes prime farmground and intends to set up easements such that future projects will be limited from doing the same. Since it is a mitigation measure for the HST project it needs to be permanent. What is the mechanism (authority, law, etc) to assure that the land selected is equivalent in quality and quantity, and permanent.

Previously it was identified that Sections 3.14 and 3.18 conflict in the additional loss of land due to growth. Section 3.18 identifies that at least 9,000 additional acres will be consumed by growth caused by HST. All land projected by this EIR to be permanent conversion needs to be mitigated also. How will farmground be protected or mitigations provided when growth exceeds projections?

Respectfully,

Mike Monteiro

Mike Monteiro

Response to Submission BO125 (Mike Monteiro, Lakeside Dairy, October 12, 2011)

BO125-1

Refer to Standard Response FB-Response-AG-05.

See Volume I, Section 3.14, Impact AG#11 for information on the impacts on aerial pesticide spraying.

BO125-2

Refer to Standard Response FB-Response-GENERAL-01.

The discussion of the No Project Alternative in Volume I, Section 3.14.5, references the San Joaquin Valley Blueprint, which forecasts that under current development patterns 327,000 acres of farmland would be converted by 2050. The San Joaquin Valley Blueprint Public Review Draft Summary Report (San Joaquin Valley Regional Policy Council 2010) covers eight counties in the San Joaquin Valley, including those in the Study Area: Fresno, Kings, Tulare, and Kern, as well as Madera, Merced, San Joaquin, and Stanislaus. The description of the HST alternatives in Section 3.14.5 also references the "B+" San Joaquin Valley Blueprint Scenario, which incorporates the HST System into the development forecast. The scenario forecasts that farmland conversion would be reduced from the 327,000 acres (under current development conditions) to 209,000 acres under the "B+" scenario. This is a reduction of 118,000 acres for the eight-county region.

The Introduction of Volume I, Section 3.18, Regional Growth, is discussing the findings of the Statewide Program EIR/EIS (Authority and FRA 2005) and the Bay Area to Central Valley Program EIR/EIS (Authority 2010a, 2012d; Authority and FRA 2008). The broader analysis examined the HST System at the state and regional levels.

BO125-3

Refer to Standard Response FB-Response-AG-05.

See Volume I, Section 3.14, Impact AG#11 for information on the impacts on aerial pesticide spraying.

BO125-4

Please review the changes made to Impact AG#1 for information on the temporary use of agricultural land during construction.

BO125-5

Refer to Standard Response FB-Response-GENERAL-03 and FB-Response-GENERAL-04.

BO125-6

Refer to Standard Response FB-Response-AG-02.

The road crossings constructed will follow the same safety regulations as all other roads in the county.

BO125-7

Refer to Standard Response FB-Response-S&S-01.

BO125-8

Refer to Standard Response FB-Response-AG-06 and FB-Response-SO-01.

See Volume II, Technical Appendix 3.14-B, for impacts on confined animal agriculture. Manure management systems will be addressed during the property acquisition and compensation process. See Volume II, Technical Appendix 3.12-A.

BO125-9

Refer to Standard Response FB-Response-HWR-03.

The alignment is being designed to minimize impacts on floodplains. Specifically, a number of culverts are proposed across the high-speed train alignment, through the embankment, and would be sized to ensure the floodwater surface elevations are maintained within 1 foot of the existing 100-year flood elevation. A more detailed study of the floodplain will be undertaken at later stages of design to more accurately size and position the culverts.

Response to Submission BO125 (Mike Monteiro, Lakeside Dairy, October 12, 2011) - Continued

BO125-9

Impact HWQ#8 of Section 3.8, Hydrology and Water Resources, discusses the potential for HST embankments to be an obstacle to the shallow overland flow if sufficient culverts or cross drainage were not provided. However, the project would incorporate adequately sized culverts to avoid diverting or redirecting overland flood flows in such a manner that would increase the water surface elevation in the 100-year floodplain by more than 1 foot, or as required by state or local agencies. Culverts would be sized in accordance with hydraulic modeling.

BO125-10

Refer to Standard Response FB-Response-AG-06 and FB-Response-SO-01.

See Volume II, Technical Appendix 3.14-B for impacts on confined animal agriculture. Manure management systems will be addressed during the property acquisition and compensation process. See also Volume II, Technical Appendix 3.12-A.

BO125-11

Refer to Standard Response FB-Response-AG-06.

See Volume II, Technical Appendix 3.14-B for impacts on confined animal agriculture.

BO125-12

Refer to Standard Response FB-Response-AG-05.

See Volume I, Section 3.14, Impact AG#10 for information on the wind-induced effects.

BO125-13

Refer to Standard Response FB-Response-AG-05.

See Volume I, Section 3.14, Impact AG#11 for information on the impacts on pesticide spraying.

BO125-14

Refer to Standard Response FB-Response-S&S-01 and FB-Response-S&S-02.

BO125-15

Traction power supply stations (TPSS) located every 30 miles would deliver AC current to the trains through the overhead contact system (OCS), with return current flowing from the trains back to the TPSSs through the steel rails and static wires. At paralleling stations, which would be positioned approximately every 5 miles along the right-of way, and at regularly spaced bonding locations, some of the return current to the TPSS would be transferred from the rails to the static wires. Most return current would be carried by the HST rails and the static wire back to the TPSS, but some return current would find a path through rail connections to the ground and through leakage into the ground from the rails via the track ballast.

The voltage on and currents running through the OCS have the potential to induce voltage and current in nearby conductors such as ungrounded metal fences and ungrounded metal irrigation systems alongside the HST alignment. This effect would be more likely where long (1 mile or more), ungrounded fences or irrigation systems are parallel to the HST, and electrically continuous throughout that distance. Such voltages potentially could cause a nuisance shock to anyone who touches such a fence or irrigation system and cuse shocks to livestock.

As indicated in Section 3.5.6 of the Revised DEIR/Supplemental DEIS, pipelines, fences, and other linear metallic objects that are not sufficiently grounded through the direct contact with earth would be separately grounded in coordination with the affected owner or utility to avoid possible shock hazards. For cases where metallic fences are purposely electrified to inhibit livestock or wildlife from traversing the barrier, specific insulation design measures would be implemented.

BO125-16

Refer to Standard Response FB-Response-GENERAL-04 and FB-Response-SO-01.

For information on the property acquisition and compensation process, see Volume II, Technical Appendix 3.12-A.

Submission BO126 (Kenneth Richardson, Lakeside Ditch Company (Atty. for), Dooley, Herr, Peltzer & Richardson, LLP, October 13, 2011)

DOOLEY, HERR, PELTZER & RICHARDSON
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October 13, 2011

VIA ELECTRONIC - Fresno_Bakersfield@hsr.ca.gov

California High-Speed Rail Authority
Fresno to Bakersfield Draft EIR/EIS Comments
770 L Street, Suite 800
Sacramento, CA95814

Re: Comments on Fresno to Bakersfield EIR/EIS Segment of HSR Project; Request for Extension of Comment Period

Dear Chairman and Members of the Board:

BO126-1

Our office serves as General Counsel for the Lakeside Ditch Company ("Lakeside"), and I am submitting the following comments on its behalf. Lakeside is a private water corporation formed and existing under the laws of the State of California for more than 135 years. Lakeside shareholders include two special districts, the Lakeside Irrigation Water District and the Kings County Water District. Lakeside is located in northeast Kings County, and its service area is a thoroughly developed irrigated agricultural region with an extensive network of public and private water resource management infrastructure that has been established, developed, utilized and relied upon over the course of Lakeside's 135 year existence.

Lakeside's Board of Directors and its shareholders, and their staff and consultants, have all eagerly anticipated the release of the Draft EIR/EIS, and have attempted in good faith to review it in the time allotted by the Authority. Indeed, for many months prior to its release, the Authority has been short on answers pertaining to any of the project details. Inquiries to the Authority's representatives have been met with only vague assurances that answers would be forthcoming in the Draft EIR/EIS.

Now, after months of waiting for answers on project details that were promised to be forthcoming in the Draft EIR/EIS, Lakeside is being offered the "opportunity" to review and comment in a mere sixty (60) days on a document that is a gargantuan 17,000+ pages when all technical studies are included. This 17,000+ page Draft EIR/EIS would require a single reader to digest and analyze 285 pages per day, while simultaneous being able to provide a meaningful evaluation of all that has been read. This doesn't account for any time that the reader might wish to take in reviewing referenced sources that the Authority has relied upon in preparation of the Draft EIR/EIS, or the time it would take to prepare and submit the comment document. Attempting to spread that task among staff and consultants, if an individual or entity is fortunate enough to have this option, hardly lessens the burden. The use of multiple reviewers

BO126-2

actually requires additional time to coordinate review, analysis and comments, and requires a level of expense that is beyond the means of the vast majority of interested public participants.

For the foregoing reasons, Lakeside's position is that this limited 60-day review period violates the public education, public participation and due process requirements of CEQA and other applicable laws and regulations. Lakeside joins in the request of numerous other interested parties that the Authority extend the review and comment period by a minimum of six (6) months to February, 2012, to ensure that adequate due process and time for meaningful participation is provided to Lakeside, its constituents, and the public.

With regards to the review of the Draft EIR/EIS that Lakeside has thus far been able to accomplish, it appears that the promised answers to project specific issues of concern to Lakeside are nowhere to be found in the Draft EIR/EIS. Indeed, it appears that the Draft EIR/EIS fails to address significant impacts the Project would have on Lakeside facilities and operations, and potential significant impacts to the environment that would result.

The Project would traverse multiple ditches and canals owned and operated by Lakeside and its shareholders, and will clearly result in changes to Lakeside's ability to access those facilities for maintenance, operation and emergency purposes. Lakeside is unable to locate any analysis in the Draft EIR/EIS regarding the financial and environmental impacts that will result from staff for Lakeside and its shareholders having to travel increased distances with heavy machinery to access its facilities. There will undoubtedly be increased fuel cost annually and lost productivity due to increased travel distances where traditional travel routes and easements are obstructed by the Project, as well as increased emissions and air quality impacts from increased operation of that equipment. The Draft EIR/EIS is inadequate because it fails identify these significant impacts, and fails to analyze if and how to mitigate these impacts.

Likewise, Draft EIR/EIS has failed to provide any information or data that would show that an effort was made to determine the potential for impacts to Lakeside water conveyance facilities during construction. Given the size of this project, it is expected that a large amount of heavy construction will be occurring over a span of 5-8 years. No effort was made to identify impacts to the environment that would result from interruptions in service to Lakeside's constituents. If Lakeside is unable to deliver water to its constituents because its conveyance facilities are unusable due to construction activities, the water that Lakeside normally receives will likely need to be conveyed to other locations. This could result in localized flooding should Lakeside or other parties be unable to accommodate the water flows in facilities not impacted by the Project's construction

Submission BO126 (Kenneth Richardson, Lakeside Ditch Company (Atty. for), Dooley, Herr, Peltzer & Richardson, LLP, October 13, 2011) - Continued

activities. Also, should Lakeside's constituents be unable to take surface water deliveries due to impacts to conveyance facilities during construction, those parties may be required to rely on local groundwater supplies which would result in localized physical impacts to groundwater resources and land subsidence, potential air quality and/or greenhouse gas emission impacts from increased groundwater pumping, potential need to fallow productive agricultural land, and economic impacts to those impacted parties.

Likewise, the Draft EIR/EIS indicates a vague plan to install drainage pipes under the portions of at grade track that would collect stormwater for discharge to drainage swales running parallel to the track. There is no discussion of how the water is to be managed once it is in the swales, the expected volume of stormwater that will be generated, or the capacity of swales of management sites that will collect the drainage water. There also must be a discussion of the water quality aspects of the stormwater that is received and collected. Lakeside is concerned that the Authority could seek to discharge this stormwater into the water conveyance facilities owned and operated by Lakeside and its shareholders. There is not enough detail provided in the description for this aspect of the Project to suggest otherwise.

BO126-3,2

The Authority has provided no empirical data that would lead the reader to believe that the foregoing potentially significant impacts are less-than-significant, or in fact, were even considered. CEQA requires all of the assumptions and conclusions in the EIR to be supported by scientific data or other empirical evidence. Once the Authority provides a full analysis of the potentially significant impacts described above, the Authority we would expect that the Authority will have to adjust the findings for NEPA and CEQA that have already been made in this document and recirculate the document for further review and comment.

Sincerely,

DOOLEY, HERR, PELTZER & RICHARDSON, LLP

Kenneth J. Richardson

KJR

cc: Andrew Hemans, General Manager
Don Mills, President of the Board of Directors

Response to Submission BO126 (Kenneth Richardson, Lakeside Ditch Company (Atty. for), Dooley, Herr, Peltzer & Richardson, LLP, October 13, 2011)

BO126-1

Refer to Standard Response FB-Response-GENERAL-07.

BO126-2

Refer to Standard Response FB-Response-TR-01, FB-Response-HWR-01.

BO126-3

The description of stormwater collection and conveyances at HST tracks has been revised in the Revised DEIR/Supplemental DEIS. The capacity of linear swales and the sizing of post-construction stormwater BMPs would be completed during final design of the design-build project. Stormwater infiltation within the rights-of-way will be encouraged. Runoff from the project would not be discharged directly to surface water bodies, irrigation canals, private property, or county roads without approval from the facility owner.

Submission BO127 (Ronald Kinnersley, Manning Gardens Nursing and Rehab, Inc, October 7, 2011)

Fresno - Bakersfield - RECORD #472 DETAIL

Status :	Action Pending
Record Date :	10/7/2011
Response Requested :	No
Stakeholder Type :	Business
Submission Date :	10/7/2011
Submission Method :	Website
First Name :	Ronald
Last Name :	Kinnersley
Professional Title :	Owner/administrator
Business/Organization :	Manning Gardens Nursing and Rehab, Inc
Address :	
Apt./Suite No. :	
City :	Fresno
State :	CA
Zip Code :	93725
Telephone :	559-834-2586
Email :	ronkmgnr@gmail.com
Email Subscription :	Fresno - Bakersfield
Cell Phone :	
Add to Mailing List :	Yes
Stakeholder Comments/Issues :	The high speed rail project will significantly impact my business. I am the owner/operator of Manning Gardens Nursing and Rehab, Inc which is a 59 bed Skilled Nursing Facility located at 2113 E Manning Ave Fresno, CA 93725 (559) 834-2586.

BO127-1

Your plans include an overpass on Manning Ave just before Cedar. The result would be a retaining wall in our front yard, including blocking off our current front entry and circle drive. The circle drive is daily parking for up to 5-6 cars at a time. The retaining wall may impact some large old trees and bushes in our front yard. It will definitely require moving our mail box and front business sign. It may also impact our well which is in the northeast corner of the property. There is also an alley running along the east side of our property which will be impacted.
Our business needs access 24/7 as we serve frail elderly residents who may need an ambulance trip to the hospital at any time. We would expect reimbursement for lost land, a viable new entry to our front and back entrances, replacement of parking spaces, as well as appropriate design on the retaining wall, appropriate landscaping, replacement of our mailbox and sign etc.

BO127-2

The road named Boyd runs to the West side of our Facility and leads to our back parking area. Boyd is used by many of the homes that are behind us. This road will need a lot of work as it is not much more than a hard-top alley at this time. We anticipate even more traffic on Boyd due to the negative impacts the overpass will have on the eastern road named Chance, which many of the homes behind us now use. Access changes to Chance, secondary to the overpass may make access to Boyd easier for some who are now using Chance.
The success or failure of the high speed rail project is of little interest to us, except that we want our business and our property to be held harmless in regards to access, appearance and ability to operate successfully.

EIR/EIS Comment :	Yes

Response to Submission BO127 (Ronald Kinnersley, Manning Gardens Nursing and Rehab, Inc, October 7, 2011)

BO127-1

Refer to Standard Response FB-Response-SO-01.

Alignment plans and maps of parcels directly affected by the project, where the whole parcel or a portion thereof would be acquired by the project, are provided in Volume III of the Revised DEIR/Supplemental DEIS.

BO127-2

The HST project does not propose to improve the right-of-way of S Boyd Avenue, but it will be developed to access the new East Manning Avenue overpass structure. South Chance Avenue would pass under East Manning Avenue to provide access to the houses to the north. After construction activities, the Authority would repair any structural damage to public roadways, returning any damaged sections to their original structural condition.

Submission BO128 (Steve & Anne Gaspar, Manuel Gaspar & Son Dairy, October 13, 2011)

Fresno to Bakersfield DEIR/EIS Comment

Name: Steve & Anne Gaspar
Organization: Manuel Gaspar & Son Dairy
(Manuel & Filomena Gaspar and Steve & Anne Gaspar)
Facility Address: 7801 - 7 ½ Avenue, Hanford, CA 93230
Phone Number: 559-381-0947
E-mail Address: sagaspar@hughes.net

BO128-1 There are issues with the High Speed Train ROW (HSTROW) location relative to our dairy. We have concerns about the affect the noise, vibration and magnetic fields will have to our facility. We have researched several technical papers which address these

BO128-2 issues. It seems there are not a lot of studies that have been conducted regarding these issues. Nevertheless, we did find one study that demonstrates the devastating affect that will be caused to our dairy by the ROW cutting through the west side of our dairy facility. The areas taken by the HSTROW directly impact, from south to north: our only public road access to our dairy facility which is off of 7 ½ Ave, our landscaped front yard, my parents' home, water monitoring well, a manure rain water runoff storage pond, cattle corrals, cattle feeding facilities, feed storage area, two manure water storage lagoons, a deep irrigation water well, electrical power supply poles, severs key irrigation lines to our farm property to the west of 7 ½ Ave and farmland.

Each of the items has an impact to our lives in ways we had never evaluated until now. Here are the impacts as listed:

BO128-3 Our public access is cut off totally. Our farm will be land locked. There must be an access ROW along the east side of the HSTROW purchased from our neighbor to the south to maintain our public road access. This will allow for us to reach the new overpass at Fargo Ave.

BO128-4 Our landscape areas offer areas of rest and relaxation from the daily rigors of living and working at home. Taking of this area will eliminate our on site relaxation area.
My parents' home will have to be destroyed. Currently, we as a family, that is grandparents, son and daughter in law and grandchildren live as a close family unit as man has done from the beginning of time. Having one home removed from our farm site and the possibility of my parents moving off the property will impact our social structure tremendously. No close contact between my parents and my family will break down our relationships. Our heritage from my parents will not be passed on as readily through our normal daily interactions and constant contact living within a few minutes walk from

BO128-5 each other. Our driving time, vehicle wear and tear, fuel consumption and time just being at home will forever be negatively impacted. All these issues are impossible to quantify.
As for the inanimate objects, the loss of manure rainwater runoff storage and manure water storage ponds will impact our Kings County Conditional Use Permit and our California State Water Quality Control Board (CSWQB) Permit due to a negative capacity impact to our storm water storage and manure water storage and directly our operations Nutrient Water Management Plan. This will require a permit process of 18 to 24 months with Kings County and the CSWQB to modify our permits and operations

BO128-5 requirements, costing tens of thousands of dollars. Being we are significantly changing our operations, we will have to meet new regulations both at the County and State levels which will dramatically increase our operational costs from regulatory compliance requirements.
We will have to install a new deep water irrigation well.
We will have to install new manure water storage lagoons lined with high density polyethylene liners to meet new water quality regulations.
We will have to install ground water monitoring wells to meet state regulations.
Isolating our farm ground to the west of 7 ½ Ave will cost us in travel and more importantly, in time to drive a much greater distance to farm the fields and retrieve the crops to our cattle feeding areas.
Moreover, the impact from the magnetic fields which will be created by the presence of the electrical grid at the HSTROW and the passing trains will have a huge affect to our lactating cows' milk production. We will have to move our facility to the east away from the HSTROW to avoid the possibility of the affect of the magnetic fields.
It appears the unintended consequences to livestock facilities by the high speed train is not anticipated within the Environmental Impact Report (EIR). I see only inanimate items addressed which is fine for field crop farming which are managed from a remote base farming operations facility. I do not see the impacts being addressed within the EIR to a family dairy farm facility such as ours.
Moreover, I did not find any references to safety measures to prevent stray voltage through the ground. Stray voltage is very detrimental to dairy cows milk production and reproduction.

BO128-6 On a personal level, one of our sons has an Autism diagnosis. Because of his condition, he is sensitive to loud noises/unusual sounds. We are concerned about the proximity of the HSTROW to our home (located on the dairy facility) and the affect it will have on him.

BO128-7 As we have listed above, our very way of life will be negatively altered forever. We have worked out the probable financial impacts to our lives. The emotional and social impacts can not be quantified.

Nevertheless, we recognize progress in all areas of our state infrastructure must take place as our population increases. The CHSRA has stated that property owners will be 'made whole' through mitigation in regards to the things that will be forcibly stripped from us. Because of the obvious complexity of our situation, our property would need to be one of the firsts to be mitigated.

We reserved the right to comment on the entire DEIR/EIS of the Fresno to Bakersfield section that is current and also the one that will be released next year.

Response to Submission BO128 (Steve & Anne Gaspar, Manuel Gaspar & Son Dairy, October 13, 2011)

BO128-1

Refer to Standard Response FB-Response-N&V-01, FB-Response-AG-06.

People and businesses in California use electric power and radio frequency (RF) communications for many purposes and services, in homes, businesses, farms, and factories. The intensive use of electric power and RF communications in California and in all developed countries has ensured that the potential health effects on people and animals of electromagnetic fields and the resulting currents and voltages have been thoroughly studied. As a result, the levels at which electromagnetic fields (EMF) and RF fields can cause health or behavioral effects are well established. Broadly used international standards were created based on intensive investigation to ensure that:

* EMF and RF fields and resulting stray currents and voltages are measured and controlled.
* Fields do not disturb or injure people or animals.

In regard to dairy production, McGill University conducted a study with cows in pens exposed to controlled EMF levels of 330 milligauss (mG) and 10 kilovolts per meter (kV/m), the projected magnetic and electric fields that occur at ground level under a 735-kV line at full load. The researchers measured the following: melatonin levels, prolactin levels, milk production, milk-fat content, dry-matter intake by cows, and reproductive outcomes. While a few statistically significant changes in these factors were found, none of the changes were outside the normal range for cows (McGill University 2008). The study concluded that the EMF exposure did not harm the cows or reduce milk productivity. Various studies cited by other researchers regarding EMF and wildlife suggest a range of effects similar to those found in livestock, from non-existent to relatively small to positive. One study suggests a beneficial application for ELF-EMF in broiler chickens to fight a common parasitic infection called Coccidiosis (Golder Associates, Inc. 2009).

Since 735-kV utility power transmission lines run up and down the state, cattle and people near those lines are exposed to these levels on a continuing basis. Consistent with the McGill study, epidemiological evidence does not indicate that cattle or people near existing 735-kV utility power transmission lines are generally or broadly affected by the fields.

BO128-1

The HST traction power 60-Hz current will flow in the overhead contact system (OCS) and running rails to provide power to trains. The traction power system is called a 2x25 kV system because it uses 25 kV voltage for the trains and uses two nearby cables with opposite phase to distribute the power down the tracks. Currents in this HST 2x25 kV system create EMFs and static electric fields near the HST tracks. However, the HST levels will be lower than the fields typical of a 735-kV utility power transmission line. This is because the separation between HST OCS cables is less, cable-to-cable voltage levels and cable current levels are less, and the HST cables are closer to the ground, which makes the cables closer to the reducing effect of the fields in the ground in comparison to the 735-kV utility power cables.

Technical Memorandum, EIR/EIS Assessment of CHST Alignment EMF Footprint, TM 300.07, shows that at the closest fence line to the HST tracks, the expected magnetic field is 60 mG, less than one-fifth the level from a transmission line (Authority 2012). Since cattle cannot be inside the fence line and people can only be inside the fence line at passenger stations, the possible HST EMF exposure is:

* Low compared to the 735-kV utility power transmission line.
* Below the level at which the McGill study showed no effect on cows and milk production.

Similarly, the electric field from the HST 25-kV, 60-Hz OCS will be low compared to the exposure from a 735-kV utility power transmission line.

For these reasons, EMF effects on livestock and poultry are expected to have negligible intensity under NEPA, and the impact would be less than significant under CEQA. (See Standard Response FB-Response-AG-06: Confined Animal Facilities regarding the impact of EMF emissions on dairies.)

BO128-2

Refer to Standard Response FB-Response-AG-02, FB-Response-AG-04, FB-Response-SO-01, FB-Response-N&V-01, FB-Response-AG-06.

Response to Submission BO128 (Steve & Anne Gaspar, Manuel Gaspar & Son Dairy, October 13, 2011) - Continued

BO128-2

See Volume II, Technical Appendix 3.14-B, of the Revised DEIR/Supplemental DEIS, for impacts on confined-animal agriculture. See Volume I, Section 3.14, Impact AG #9, for information about noise effects on grazing animals.

Based on existing research, the FRA has established a threshold for HST noise effects on livestock of 100 dBA SEL (FRA 2005a). As discussed in Section 3.4, Noise and Vibration, the term SEL, or the sound exposure level, represents the noise generated during a single event, such as the train passing a given point. At a distance of 100 feet, the SEL for project operations at all dairies along the alignment in Kings County would be less than 100 dBA. Facilities on operations not located at least 100 feet from the project would experience moderate noise and vibration effects. (See Appendix B of Section 3.14, Agricultural Lands, for details on these effects to animal operations.)

A study by Amstutz and Miller (1980) appears to be the most appropriate reference for the effects of stray currents and electromagnetic fields on livestock (Authority and FRA 2012k). That study of 11 livestock farms concluded that livestock health, behavior, and performance were not affected by electrical and magnetic fields created by a very large (765 kV) overhead transmission line. The HST system would operate on a much smaller 2x25 kV overhead contact system. Therefore, the Authority and FRA have determined that this is a negligible impact under NEPA and a less-than-significant impact under CEQA.

BO128-3

Refer to Standard Response FB-Response-AG-02.

BO128-4

Refer to Standard Response FB-Response-SO-04.

BO128-5

Refer to Standard Response FB-Response-AG-06, FB-Response-AG-04, FB-Response-AG-02.

See the Revised DEIR/Supplemental DEIS, Volume I, Section 3.12, Impact SO #16, and

BO128-5

Volume II, Appendix 3.14-B, for impacts on animal operations.

BO128-6

Noise calculations were conducted at this residence to determine the potential future impact. The ambient level was estimated to be a 56 decibel (dB) day-night sound level (Ldn), which is consistent with noise measurement site HE-026 to the west. This home is shown as located 575 feet from the alignment, which is currently proposed to be about 11 feet above the ground. At this distance, the project-related noise exposure level at this house would be 66 dB Ldn, for a total noise level of 67 dB Ldn. This noise level would represent an increase of 11 dB over the existing ambient and would result in a severe impact. The homes along this portion of the alignment are spaced too far apart to make a noise barrier financially feasible; therefore, the home would be eligible for the next level of mitigation, which would be the building noise insulation program. This program is designed to reduce the level of noise exposure within the home. If the BNSF Alternative is selected for the Hanford area, then a detailed analysis would be conducted for this residence to determine the level of mitigation necessary to sufficiently reduce the noise impacts. Based on this detailed analysis, it would be determined whether noise insulation is sufficient to reduce impacts to a less-than-significant level or if relocation may need to be considered.

BO128-7

Refer to Standard Response FB-Response-SO-01.

Attachment to Submission BO128 (Steve & Anne Gaspar, Manuel Gaspar & Son Dairy, October 13, 2011) - Gaspar_Letter_Attachments.pdf

The Permanente Medical Group, Inc.
PEDIATRICS
2651 Highland Avenue
Selma CA 93662-3392
Dept: 559-448-4555
Main: 559-898-6100

June 10, 2011

RE:Michael S Gaspar
DOB 5/1/2007

To whom it may concern:

This is to inform you that Michael Gaspar has a diagnosis of autism. Because of this condition, he is very sensitive to loud noises/unusual sounds. His parents are concerned regarding the plan for the bullet train construction near their property. The constant passing of trains will not be good for Michael due to his condition.

This is being written upon his mother's request for documentation of his condition.

Sincerely,

AIMEE LUCAS SIMBRE MD

Potential Milk Production Losses Based on Research
ASAE (American Society of Agricultural Engineers) Publication #7010203; 29 January, 2003.

Manuel Gaspar & Son Dairy

Number of lactating cows:	720	
Average milk production per cow:	68	lbs per day
Yearly production per cow per normal lactation (year):	20,740	lbs per 305 days
Milk butterfat content- normal:	3.55%	before affects of magnetic fields
3.5% Fat corrected milk production:	21,036	lbs per 305 days (year)
Income per cow:		
Milk price:	$18.50	per cwt.
Average income per cow per year:	$3,891.71	
Production per cow as affected by magnetic fields:		
% of milk loss based on study:	7.35%	production loss per lactation (year)
Milk produced per 305 day lactation after loss:	19,216	lbs per 305 days
Milk butterfat content- affected by magnetic fields:	3.40%	after affects of magnetic fields
3.5% Fat corrected milk production:	18,650	lbs per 305 days (year)
Average income per affected cow per year:	$3,554.89	
Milk production loss:	2,387	lbs per cow per 305 day lactation (year)
Income loss per cow:	$336.83	per 305 day lactation (year)
Total calculated losses for the herd:	$242,514.01	per year
Losses based on a 50 year life span of the facility:	$12,125,700.26	

Move dairy facility from High Speed Train Right of Way to mitigate magnetic fields:

Replacement facilities:	
New milking parlor- Double 16 Parallel Style barn-	$1,200,000
New freestall barn facility for lactating cows- 720	$1,152,000
New dry cow and heifer facilities-	$432,000
Change manure management system:	
Replace manured rainfall runoff storage pond-220'x50'	$5,450
Replace manure nutrient water storage lagoons-Lined	$200,000
Replace cow lane flush system-	$160,000
Demolish Existing facility-	$76,950
mitigate corral soils	$48,000
Replacement facilities:	
Redirect irrigations pipeline under HSTROW	$75,000
Replace irrigation well-	$350,000
Replace existing home	$352,800
New lot-	$250,000
Shop-storage building-	$55,000
Commodity Barn- 32' x 100'	$80,000

Attachment to Submission BO128 (Steve & Anne Gaspar, Manuel Gaspar & Son Dairy, October 13, 2011) - Gaspar_Letter_Attachments.pdf - Continued

Silage Pad- 120' x 340'	$80,000
Property loss-7.33 acres	$183,250
Losses over 50 year life of facility:	
Crop loss from farm ground conversion- 10.1 acres	$1,325,625
Government compliance costs:	
Consultant reports	$20,000
Kings County Conditional Use permit-	$28,000
California State Water Quality Control Board-	$4,000
Revise ROWD-	$8,000
Revise SPR at Kings County Planning Department-	$24,000
Install ground water monitoring wells-	$27,500
Increased costs of operations:	
Monitor new monitoring wells- 50 years	$400,000
Farming costs to property west of 7 1/2 Ave.-	
Increased travel and crop transfers	$811,800
Total estimated impact costs	$7,349,375

Attachment to Submission BO128 (Steve & Anne Gaspar, Manuel Gaspar & Son Dairy, October 13, 2011) - Gaspar_Letter_Attachments.pdf - Continued

11 10:38a Cardoza Construction (559) 864-8331 p.2

CARDOZA CONSTRUCTION
Johnny Cardoza, Jr.
13461 S. Henderson
Caruthers, Ca. 93609
Phone: (559) 864-3765
Fax: (559) 864-8331
License #: 744658

October 9, 2011

Manuel Gaspar & Son Dairy
7801 7½ Avenue
Hanford, CA 93230

BID

NEW MILK BARN 60 ft. x 300 ft. x 15 ft.:

Galvanized columns & roof structure
Colored block
Metal roof, painted
24 – Skylights
60 – Dome sprinklers

Bid includes all labor & material

Bid does not include permits or site drawings

Total Bid: $ 685,000.00

Bid good for 20 days

Attachment to Submission BO128 (Steve & Anne Gaspar, Manuel Gaspar & Son Dairy, October 13, 2011) - Gaspar_Letter_Attachments.pdf - Continued

AVILA DAIRY EQUIPMENT, INC.
9211 E. LACEY BLVD.
HANFORD, CA 93230-4732
tele (559) 582-9649 fax (559) 582-3123

BouMatic

BECO DAIRY AUTOMATION INC

Gaspar Dairy
New 2 X 16 Parallel Milking Parlor

9/20/11

Stalls
- Turner 2 X 16 Parallel Stalls W/Lift Front Assembly
- Indexing Air Bags
- Air Operated Entrance Gate and Front Lift
- Air Controls and Valves
- Stainless Pit Curbing
- Mounting Brackets and Clamps
- Air Supply Lines and Fittings

Crowed Gate
- 1 Vandenberg Air Operated Crowed Gate (40' X 120')
- 4" Galvanized Track W/Drive Chain
- Air Supply Lines and Fittings
- Gate Air Controls and Valves
- Mounting Brackets and Clamps

Detachers
- 1 BouMatic ParlorMetrix Detacher 2 X 16 System Kit
- 32 Air Cyl Assemblies W/ Brackets
- 32 Sensor Assemblies W/Brackets
- 2 Power Supply Units
- Communication Cable(Link PC to Each Modular Control)
- 6 Connductor Cable (Wire Switch Panels to Control Assy)
- 5/32 Red Air Tubing (Cyl to Dual Air Valves)
- 5/32 Green Air Tubing (Cyl to Dual Air Valves)
- 5/32 Black Air Tubing (Sensor to Modular Control)
- Air Supply Lines and Fittings
- Mounting Bracket and Clamps
- Electrical Conduit and Wire

Milk Units
- 1 BouMatic Milking Unit Kit Assemblies Including the Following
- 128 Stainless Steel Shells
- 128 Liners
- 128 Air Tubes
- 32 BouMatic Pulsators
- 32 BouMatic Flow-Star Claws W/Air Forks
- 32 BouMatic Hose Support Assemblies

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Milk Line
- 2 24" Stainless Steel Milk Receivers
- 2 Receiver Lids/Gaskets
- 2 4" Stainless Steel Vacuum Moisture Traps
- 2 4" Stainless Steel Vacuum Trap U-Bends
- 2 4" Stainless Steel Milk Wash Butterfly Valves
- 2 1.5" Stainless Steel Cip Wash Butterfly Valves
- 2 4" Double Loop Stainless Steel Milk Lines
- 32 3/4" Milk Inlet Nipples
- 4" Stainless Steel Fittings And Clamps
- 2 2 Hp G&H Milk Pumps W/ Stainless Steel Y-Check Valves
- 2 Stainless Steel Milk Pump Stands
- 2 Milk Pump Variable Speed Controls
- 2 Variable Drive Float Control Assemblies

Milk Discharge
- 2" Stainless Steel Milk Discharge Lines (Milk Pumps To Milk Tanks)
- 2" Stainless Steel Fittings and Clamps
- 2" Stainless Steel Line Brackets and Clamps
- 2 2" Air Diverter Valves
- 2 36" Stainless Steel Milk Filters
- 1 Mueller Dual Coolant Plate Cooler

Cip Wash Lines
- 2" Stainless Cip Jetter Wash Wash Line (Sink to Milk Parlor)
- 2" Stainless Steel Fittings and Clamps
- 2" Stainless Steel Line Brackets and Clamps
- 32 Jetter Wash Assemblies
- 200' .75 Jetter Wash Hoses
- 2 BouMatic Air Injectors
- 2 Hot Water temperature Gauges
- 1 200-Gallon Stainless Steel Wash Sink
- 1 Dual Compartment Hand Equipment Wash Sink

Vacuum Pump
- 1 BouMatic Air Star 400 Vacuum Pump Assembly
- 1 Air Star Motor Pulley Kit
- 1 Air Star Silencer
- 1 Vacuum Relief Valve
- 1 4" Vacuum Pre-Filter
- 4" PVC Vacuum Check Valves
- 2 4" PVC Vacuum Shut Off Valves
- 1 350 Vacuum Control
- 1 Vacuum Gauge
- 1 15Hp 3 Ph Hi-Eff Motor
- 1 Variable Speed Drive Control

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Vacuum Lines

1 18" X 120" PVC Vacuum Balance Tank
6" PVC Vacuum Supply Lines (Vacuum Pump to Balance Tank)
6" Fittings and Adaptors
5" PVC Pulsation Lines
5" PVC Fittings and Adaptor
3" PVC Pulsation Fresh Air Lines W/Filters
5" PVC Vacuum Trap Supply Lines
5" PVC Fittings and Adaptors
Stainless Steel Line Brackets and Clamps\

Air System

1 Quincy QT15-10-120 Air Compressor Assembly
1 Air After-Cooler
1 1" Moisture Trap
1-1/4" Air Lines
1-1/4" Air Fittings and Valves
Line Mounting Brackets and Clamps

Hot Water System

1 500 Gallon Insulated Hot Water Storage Tank
1 300000 BTU Hot Water Heater
1 Hot Water Circulating Pump W/Flanges
1 Hot Water Temperature Control
1 Hot Water Temperature Gauge
2" Hot Water Supply Lines and Fittings
2' Hot Water Line Insulation

Refrigeration

1 Mueller LS45-15 Chiller Assembly Complete W/Tank, Controls and Pump
3 15 Hp Copeland Air Cooled Refrigeration Compressor
2 Mueller Free-Heaters (119 Gallon Each)
Refrigeration Lines and Fittings
3" Pvc Chill Water Lines and Fittings
Stainless Steel Line Brackets and Clamps

Milk Tank

1 Mueller 7000 Gallon Silo Milk Storage Tank
1 Cip Attachment
1 Cip Door
1 External Calibration Gauge
1 Aseptic Sampler
1 3" Tank Valve
1 Mueller Milk Temperature Recorder and Stainless Steel Chart Cabinet
1 5 Hp Tank Wash Pump
1 Tank Controls
1 State Tank Calibration
2" Stainless Steel Tank lines and Fittings

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Misc Equipment

1 Automatic Pipe Line Washer W/Drain and Valves
1 Start Stop Motor Control Station
Stainless Steel Paper Towel Boxes
Milk Pit Drop Hoses W/Nozzles
Stainless Steel Iodine Fill Station
Electrical Wiring and Conduit to Point of Usage

Not Included in Bid Proposal

Dairy Barn Construction
Dairy Barn Electrical and Plumbing

Installed Price
$659,021.26

Includes Material,Freight,Tax,Labor
Equipment Warranted One Year Labor 90 Days
Bid Proposal Good For Thirty Days

Submitted By
Richard Avila

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Anne Gaspar

To whom it may concern this is an estimate only.

Estimate to Replace 2800 sq ft, three bedroom, three bath, $\frac{1}{2}$ three car garage Home. Located at 7801 7½ Ave. Hanford California

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Effects of Magnetic Field during Gestation on Dairy Cows and Their Calves

J.J.J. Broucek, C. W. Arave, M. Uhrincat, A. Sandor, S. Mihina, A. Hanus, P. Kisac

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Abstract

We used 25 Holstein cows. The cows of a trial group (13) were exposed to a low magnetic field (MF) at a flux density ranging from 42.1 μT (head) to 21.9 μT (breech) during the 196th to 258th day of gestation, while cows of a control group (12) were in an environment with a zero MF.

There was a significant difference (*P<0.05) between trial and control groups in 305 days lactation milk production (6910.5 kg vs. 7423.1 kg). Days open and calving intervals were not significantly shorter in the trial group. 8 bulls and 4 heifers were born in the trial group, and 6 bulls and 6 heifers in the control group. No significant differences between groups of cows and calves were found in the growth of live body weight during the whole trial.

Maze learning ability tests were conducted for calves at the age of 15 weeks. Maze behavior was not different, but exploratory behavior was intensified in the trial group. An open-field test was applied at three ages, A1 (16 weeks), A2 (25 weeks) and A3 (12

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months). There was no impact of the magnetic field in the prenatal period on the open-field behavior and relationship of calves to humans.

KEYWORDS. Magnetic field, Animal housing, Dairy cows, Calves, Milk yield, Behavior.

INTRODUCTION

The magnetic field is one of several environmental factors. Its extreme values are called gepathogenic zones and occur rather frequently in nature. Electrical and magnetic fields of the earth are deformed there, and increased ionization and electrical conductivity of soil can be proved (Gould, 1984). Many barns are located above these zones, and animals, since they are kept at one place for a long time, can be negatively affected by them. When evaluating 328 dairy cows, Harsch et al. (1996 a) found that after screening stalls to calm the waves of the magnetic field, the heart rate decreased by about 9 beats/minute on average. The animals vocalized less and were less frightened by external stimuli. In another study, Harsch et al. (1996 b) found that dairy cows housed above deformed magnetic field had improved reproductive parameters after the application of a special mat. The impact of the magnetic field on the increased number of stillborn or malformed calves has been shown (Llaurado, 1985).

Factors such as intensity, gradient and direction of the magnetic field that was used for the evaluation of the magnetic field that affects a biological sample (Barnothy, 1964). The living organism registers and assesses very weak magnetic fluctuations. Veterany and Hluchy (2001) found that hatchability of chickens was increased exposure of eggs to magnetic field 0,07 T. Wenzel et al. (2002) assessed the effect of electromagnetic transmitters of mobile phone network on behavior of dairy cows in Germany. Significant differences were found in lying behavior and in daily behavior profiles of cows. Reilly (1995) notes that an excitation threshold for neural stimulation of dairy cows is 53,7 mT if the body is exposed in a dorsal or sagital direction. In exposure of the head only, the threshold value is approximately three times higher.

It has been proved that after exposure to a magnetic gradient, the hypothalamic-pituitary-adrenal axis is activated and immunity and central nervous system disturbed. Stress factors of the magnetic field can be aggravated by limited movement, very high animal density, hyper- and hypothermia, bleeding, starving etc. According to Barnothy (1964), a decrease in the growth of young mice was recorded. Mevissen et al (1998) found that immunity was disturbed after a long-term exposure to a magnetic field of 100 μT. Prenatal exposure of mice to a sinusoid magnetic field of 5 mT for the period of gestation caused in the young aged 82-84 days a deficit of spatial learning and memory (Sienkiewicz et al. 1996 b). Rats exposed to a magnetic field were in comparison with a control group retarded in the moment of the first opening of eyes and tooth eruption ($P<0.01$). In the open-field test, trial animals walked over significantly less squares than control animals ($P<0.01$) but they defecated ($P<0.05$) and urinated ($P<0.01$) significantly more frequently than the animals that were not exposed (Ossenkopp, 1972). From the results of a study by Burchard et al. (1995) it can be seen that exposure to a magnetic field of 30 μT for a period of 28 days did not cause changes to milk production and consistency, except for the fat content. According to Kowalczuk et al. (1994) prenatal

exposition to a magnetic field with a magnetic induction of 20 mT from the zero to the seventeenth day of gestation is linked with heavier fetuses and a small incidence of external abnormalities. In another experiment, pregnant mice were exposed during all periods of gestation to a magnetic field of 20 mT. Male mice from the trial group had a significantly lower weight in the 30th day of age than males from the control group. Prenatal exposed females were, on the other side, slightly heavier than those that had not been exposed. In the open-field test, exposed animals showed a higher motion activity (Sienkiewicz et al. 1994). The same authors (Sienkiewicz et al. 1996 a) carried out a series of experiments with direct exposure of the magnetic field to adult mice. They used a magnetic field with a magnetic induction of 5 μT, 50 μT, 0.5 mT a 5.0 mT. Control animals were in an environment with the magnetic induction lower than 50 nT. No kind of exposure had an effect on the maze learning of animals.

MATERIALS AND METHODS

Equipment

This study aimed to ascertain the effects of an induced magnetic field of a similar intensity as that of a natural geopathogenic zone on livestock. First we had to assemble a device that homogenized the natural magnetic background in the trial barn with the absence of longitudinal waves.

We used a large-space area screener composed of 4 coils. Three coils were placed horizontally with an axis angle of 120° and connected serially. The fourth coil was situated vertically and connected to the others in parallel. A magnetic background of 20 nT was measured by measuring instrument Tester EMS-823. In a compensated area we installed a resonator composed of an emitter of magnetic waves and a glass resonating cylinder. A permanent magnet was built into a globe-shaped emitter. The magnetic induction was altered with the change of distance between these two components (emitter and resonating cylinder). When the distance between the emitter and resonating cylinder was 0,52 m, a magnetic induction of 57,7 mT was measured to 0,1 m by means of a differential magnetometer BG 91. A permanent magnet excited the resonator through the static magnetic field, and the resonator generated longitudinal waves of the electromagnetic field called also Tesla's scalar waves (Meyl, 1998).

The resonator was placed at the height of 2,93 m above the feeding alley. The heads of four cows were exposed to a magnetic induction of the static magnetic field of 42.1 μT and their rears to 21.9 μT (these are values obtained in animal housings with a detected geopathogenic zone) and to longitudinal waves of an electromagnetic field. We kept this distance (0.52m) unchanged during all period of the exposure.

Animals and Housing

Twenty five Holstein cows, which were gradually divided into two balanced groups by milk production over the first 6 months of lactation were used in the experiment. The trial group animals (n =13) were exposed to a static magnetic field (from 42.1 μT to 21.9 μT) and to longitudinal waves of electromagnetic field from the 196th day of gestation.

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The control group (n=12) was in a separated area. Two concentric circles determined the effects of magnetic radiation from the resonator on the head and the rear part of animals. The magnetic field was affecting the animal obliquely from above. Dairy cows from trial and control groups were kept in tie-stall housing without access to an exercise lot from the 196th to the 258th day of gestation. Both groups were kept in separate areas within the same barn so as to maintain a permanent intensity of the magnetic field.

All cows were gradually moved to a group maternity pen with loose housing, straw bedding and a zero magnetic field two weeks before the planned parturition. Both groups were in the same environment over the whole lactation period. The average of lactation order was 3.5 in trial group and 3.3 in control group. The cows were fed the same feed ration consisting of corn silage, alfalfa hay and concentrate mixture. The calves could eat starter mixtures and alfalfa hay from a special feeder and crib; they could also eat the same ration as the cows from the trough. Calves were fed alfalfa hay and corn silage free choice and 1.5 kg concentrate per day after weaning. After calving, cows were moved to a loose housing production barn. Milk production was monitored on a daily basis and milk composition determined every two weeks. The cows were weighed once a month. Reproduction and health of the animals was monitored.

Eight bulls and 4 heifers were born in the trial group, and 6 bulls and 6 heifers in the control group. The animals were reared by nurse cows in loose housing from the seventh day of life until weaning. Weaning was conducted at 56 days in all animals. Live body weight was measured at birth, every two weeks and during every change of housing. Two bulls from the trial group were slaughtered due to respiratory diseases at the age of 22 weeks.

Behavior tests

The 6-unit maze 16.4 x 4.5 m was used. On the first observation day the calves was tested five times. The first test was for training. Time was recorded from entry to exit. Behavior was recorded by a video camera.

An open-field test was applied at three ages, A1 (16 weeks), A2 (25 weeks) and A3 (12 months) in an arena marked off into 9 squares. In A1 and A2, the size of the arena was 4.5 x 4.5 m. Two buckets containing concentrate were placed therein. The calves were given four 5-minute tests (AM and PM during 2 consecutive days). Behaviour of the animals was recorded using a video camera. The animals were subjected to six, 10 minute tests during 3 consecutive days at the A3 age in a 10x10 m arena. A manger containing concentrate was placed in square 8. The animals were exposed to isolation and silence during the first two tests, and to an unfamiliar person sitting on square 4 during the third and fourth tests. Noise (110dB and 1kHz) was used as a stress factor for the last two tests.

Statistical analysis

The data were analyzed with a statistical package STATISTIX (Analytical Software, P.O. Box 12185, Tallahassee, FL 32317-2185, USA). Between-group comparisons (factor treatment) were analyzed using a two-way analysis of variance (ANOVA) with repeated measures (factor days). Significant differences between means were tested by Tukey's test.

RESULTS

Cows

Milk production of trial cows showed a lower trend as soon as the second month. In the tenth month of a standardized lactation (305 days), a significant difference (*P<0.05) between treatments in favor of the control group was recorded (417 kg vs. 583 kg). A 513-kg significant difference (*P<0.05) was found between control and treatment groups for the 305 d lactation (6910 kg vs.7423 kg) (Table 1). The largest difference between groups in the content of individual components was in milk fat (3.71% versus 3.55%). Lactose production was significantly (*P≤0.05) different (336.7 kg vs. 359.5 kg). The growth of live body weight of dairy cows in observed groups did not differ in any lactation month. The average daily gain over the period from the 30th to the 305th day of lactation was 0.26 kg in the trial group and 0.23 kg in the control group.

Reproduction indicators of cows in both groups were not significantly different during the lactation following exposure to the magnetic field. Days open (139.8 vs.164.4) and calving intervals were shorter (415.2 vs. 440.0) in the trial group. During the trial, 2 cows were culled out of the trial group for health reasons and one for sterility. Three cows were culled from the control group for sterility and one for sickness. Eight males and four females were born in the trial group: one cow had stillborn twins and one live-born twins. Six males and six females were born in the control group. All cows in the trial group calved without help, and one parturition was assisted in the control group.

Calves

No significant differences between groups were found in the growth of live body weight during the whole trial. Live body weight at birth was slightly higher in the trial group (45.5 kg vs. 44.2 kg). From birth to 120 days, there was no difference between groups for body weight change. Average daily gains were slightly higher in the trial group, but again this difference was not significant. The average daily gain from birth to 30 days was 0.52 kg in the trial group and 0.42 in the control group. There were average daily gains of 0.67 kg in the trial group and 0.65 kg in the control group for the period from birth to 120 days.

The total time of standing in the maze decreased from 47.7 s in the first run to 27.9 s in the second run, and this level was maintained until the fourth run. There was a significant increase in the fifth run to 70 s, and this time changed only negligibly until the eighth run. The average times on the first and second days (34.7 s vs. 69.5 s) were significantly different.

We evaluated the orientation of the calves in the maze according to the number of mistakes and returns to the entrance part. Animals from the trial and control groups made the same number of mistakes (26). On both days, there were generally less returns in the control group.

Calves from the trial group ran across the maze in the first run slower than calves from the control group (84.5 s vs. 44.2 s). In the next three runs the animals from the control group were slower. Beginning in the fifth run, the time spent in the maze was significantly

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prolonged in the trial group. Due to the time extension, there was a significant difference (*P<0.05) between the average times on the first and second days (69.1 s vs. 112.6 s).

The number of grid crossings for the first minutes and for the whole 5 minutes tests were not statistically different between groups at the ages A1 and A2. The longest stay in both groups occurred in square No. 7 for ages A1 and A2. During all tests, the stay was higher in the trial group (**P<0.01). Total times of movement were slightly lower in the trial group. There were no significant differences between the times of the first eating or the length of feeding. At 25 weeks, first sniffing of the bucket occurred much sooner than at a younger age. Animals in the trial group were slightly faster. The time of the first eating of feed at 25 weeks was different between treatments (*P<0.05). In all tests, the reaction of the trial group was faster, with the greatest differences found on the first and second tests (113.7 s vs. 177.7 s. and 24 s. vs. 43 s). Vocalization was more frequent in the control group during both age periods.

The frequency of stays in square No. 8, where the manger was placed, was falling equally in both groups from the first to the fourth tests at the age of A3. The frequency of staying at the manger and concentrate sniffing and a time of feeding were not different. In the last two tests with noise stress introduced, the frequency of staying at manger increased in the control group. Owing to this, differences between groups were significant (*P<0.05) in the fifth test and on the third day. There were no significant differences between groups in frequencies or in lengths of staying in square No. 4 where an unfamiliar person was sitting, but slightly higher values were recorded in a control group. A similar trend was found in the evaluation of stays on the boundary with square No. 4. Contact behaviour, measured by the frequency and length of sniffing of the person, was not significantly different between groups.

DISCUSSION

In this study, we aim to report on the research into the impact of an artificially induced magnetic field on production and behavior of dairy cattle. A natural zone could not ensure the same intensity of radiation on all observed farms. To avoid this disadvantage we exposed the cows to an induced magnetic field, which is, in fact, an induced geopathogenic zone. Under these conditions we proved that a weak magnetic field affecting animals in the gestation period constitutes a negative environmental factor that decreases milk production. No negative influence of the magnetic field on reproduction was observed. Live body weight of calves at birth, as well as weight gains of mothers during lactation were higher in the trial group. It was obvious that the trial group had better reproduction parameters. However, this could not be linked with exposure to the magnetic field. By no means do we claim that the effects of this factor improve the milk production of cows. Similarly, as in humans, the impact of the magnetic field on animals differs by individuals. In our experiment, we focused on the study of the magnetic field, which was induced so as to acquire the same intensity as that found in nature in the strongest geopathogenic zones. We focused on indirect effects, in the period when the fetus was in a high degree of development. The values of magnetic induction affecting the mother's organism were higher than those noted by Thompson et al (1995) in lambs, but lower than those used by Reilly (1995). However, the mother's immunity system might have been disturbed. On the other hand, the fetus has a maximum protection from

environmental influences in the womb. We have not proved the conclusion of Pohl (1986) that growth decreased in animals after exposure to the magnetic field. Calves of the trial group grew more intensively, but that could have been caused by a larger number of bulls in the trial group. It is worth mentioning that two bulls from the trial group had to be culled due to pneumonia and subsequent slaughter at the age of 22 weeks. Here it could be an immunity problem.

Stressors operating in the prenatal or early postnatal period can influence development, behavior and physiological reactions of individuals (Weinstock, 1997; Williams et al., 1999). We aimed for a complex assessment of the behavior of animals. Therefore, we applied methods for inducing abnormal reactions of animals.

In maze tests, the stay of the trial group the total time spent in test facility were prolonged. This is what authors Vallee et al. (1999) say. On the other hand, this prolonging of time could be accounted for as an increased exploratory reaction. This exploratory behavior occurred only in bulls. It is yet to be ascertained whether we will consider this exploratory behavior of males as positive or negative. If it is an expression of a higher interest in the environment, and thus of a higher intelligence (Purcell and Arave, 1991), we can speak about positive effects of the magnetic field of a certain intensity operating during an intrauterine development. Similar results in the comparison of the sex behaviour of calves were found out by Arave et al. (1992). The male calves were slower to find the food source than females. Exploration of an unfamiliar environment and its evaluation is fundamental to adaptation. According to Braastad (1998), prenatally stressed animals reportedly show a reduced exploratory behavior and an impaired learning ability. In this respect, we obtained contrary results. Calves that were prenatally exposed to the magnetic field showed a more significant exploratory behavior. For example, female rats showed significantly higher exploratory activities in a hexagonal tunnel maze, but defecated significantly less than males (Escorihuela et al. 1997).

Another method we used for the evaluation of emotional reactivity the open-field test. Our animals from both groups showed a good habituation, and their motor activity decreased from the first to the fourth test in each testing age. We found no differences between the sexes during open-field tests, opposite to the maze. The results of open-field tests conducted by additional authors indicate that a poor environment can increase the motivation of animals to explore or to fear. Fearfulness, which can be expressed by increased vocalization (Passillee et al, 1995), was more prevalent in the control group. Animals prenatally exposed to the magnetic field did not have an increased mobility as Sienkiewicz et al. (1998), reported in laboratory animals.

Approach behaviour to humans was not significantly different between groups at the age of 12 months, but slightly lower values were found in the trial group. Needless to say we do not consider this evidence of the negative impact of the treatment used in the prenatal period. Based on all mentioned information, we cannot qualify the reaction of trial group calves as abnormal or different from standard behavioral patterns. The effects of this environmental factor in the prenatal period did not have a negative impact on the calves.

CONCLUSION

We can conclude that no convincing impact of the magnetic field in the prenatal period

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has been proven on the growth, maze and open-field behaviour and relationship of calves to humans. However, our experiment show that a magnetic induction of 21.9 ?T to 42.1 ?T imposed during gestation does not allow for a full realization of genetic dispositions for milk production in a subsequent lactation. A negative impact of this environmental factor on the body weight of cows after calving and on their reproduction has not been proven.

REFERENCES

Arave, C.W., R.C. Lamb, M.J. Arambel, D. Purcell, and J.L. Walters. 1992. Behavior and maze learning ability of dairy calves as influenced by housing, sex and sire. *Appl. Anim. Behav. Sci.* 33: 149-163.

Barnothy, J.M. 1964. Introduction. In: *Biological effects of magnetic fields*. 1-24. M.F. Barnothy, eds. Plenum Press, New York.

Braastad, B.O. 1998. Effects of prenatal stress on behaviour of offspring of laboratory and farmed mammals. *Appl. Anim. Behav. Sci.* 61: 159-180.

Burchard, J.F., D.H. Nguyen, and E. Block. 1996. Biological effects of electric and magnetic fields on productivity of dairy cows. *J. Dairy Sci* . 79: 1549-1554.

Escorihuela, R.M., A. Fernandez-Teruel, and A. Tobena. 1997. Labyrinth exploration, emotional reactivity, and conditioned fear in young Roman/Verh inbred rats. *Behavior Genetics*. 27: 573-578.

Gould, J.L. 1984. Magnetic field sensitivity in animals. *Review of Physiology*. 46: 585-598.

Harsch, B., D. Marx, and K. Loeffler. 1996a. Einflusse vermuteter Stoerzonen auf die Gesundheit und Leistung landwirtschaftlicher Nutztiere und Auswirkungen der f?r die Beseitigung derartiger Einflusse entwickelten Photonenplatte von R. Wiggenhauser. 2. Mitt. Herzschlag- und Atmungsfrequenz, Koerperinnentemperatur, Blutparameter, Mastleistung und Wachstum, Stalluftbedingungen; Tieraerztl. Umschau. 51: 722-729.

Harsch, B., D. Marx, K. Loeffler, and E. Grunert. 1996b. Einflusse vermuteter Stoerzonen auf die Gesundheit und Leistung landwirtschaftlicher Nutztiere und Auswirkungen der fur die Beseitigung derartiger Einflusse entwickelten Photonenplatte von R. Wiggenhauser. 3. Mitt. Gesundheits- bzw. Krankheitszustand der Milchkuhe und ihre Fruchtbarkeitleistungen. Tieraerztl. Umschau. 51: 772-785.

Kowalczuk, C.I., L. Robbins, J.M. Thomas, B.K. Butland, and R.D. Saunders. 1994. Effects of prenatal exposure to 50 Hz magnetic fields on development in mice: I. Implantation rate and fetal development. *Bioelectromagnetics*. 15: 349-361.

Llaurado, J.G. 1985. Harmful effects of electromagnetic fields: myth or reality? *Int J Bio-Medical Computing*. 17: 1-6.

Mevissen, M., M. Haussler, M. Szamel, A. Emmendoerffer, S. Thun-Battersby, and W.

L.?scher. 1998. Complex effects of long-term 50 Hz magnetic field exposure in vivo on immune functions in female Sprague-Dawley rats depend on duration of exposure. *Bioelectromagnetics*. 19: 259-270.

Meyl, K. 1998. Elektromagnetische Umweltvertr?glichkeit. Ursachen, Ph?nomene und naturwissenschaftliche Konsequenzen. Teil 1: Umdruck zur Vorlesung. Villingen-Schweningen, INDEL GmbH, Verlag, 219 p.

Ossenkopp, K. 1972. Maturation and open-field behaviour in rats exposed prenatally to an ELF low intensity rotating magnetic field. *Psychological Report*. 30: 371-374.

Passille, de A.M., J. Rushen, and F. Martin. 1995. Interpreting the behaviour of calves in an open-field test: a factor analysis. *Appl. Anim. Behav. Sci* . 45: 201-213.

Pohl, von G.F. 1986. *Erdstrahlen als Krankheits- und Krebserreger* . Germany: Frech-Verlag.

Purcell, D., and C.W. Arave. 1991. Isolation vs. group rearing in monozygous twin heifer calves. *Appl. Anim. Behav. Sci* . 31: 147-156.

Reilly, J.P. 1995. Nerve stimulation of cows and other farm animals by time-varying magnetic fields. *Transactions of the ASAE* . 38: 1487-1494.

Sienkiewicz, Z.J., L. Robbins, R.G.E. Haylock, and R.D. Sauders. 1994. Effects of prenatal exposure to 50 Hz magnetic fields on development in mice: II. Postnatal development and behavior. *Bioelectromagnetics*. 15: 363-375.

Sienkiewicz, Z.J., R.G.E. Haylock, and R.D. Sauders. 1996a. Acute exposure to power-frequency magnetic fields has no effect on the acquisition of a spatial learning task by adult male mice. *Bioelectromagnetics* . 17: 180-186.

Sienkiewicz, Z.J., S. Larder, and R.D. Sauders. 1996b. Prenatale exposure to a 50 Hz magnetic fields has no effect on spatial learning in adult mice. *Bioelectromagnetics*. 17: 249-252.

Sienkiewicz, Z.J., R.G.E. Haylock, and R.D. Sauders. 1998. Deficits in spatial learning after exposure of mice to a 50 Hz magnetic field. *Bioelectromagnetics*. 19: 79-84.

Thompson, J.M., F. Stormshak, J.M. Lee, D.L. Hess, and L. Painter. 1995. Cortisol secretion and growth in ewe lambs chronically exposed to electric and magnetic fields of a 60-hertz 500-kilovolt AC transmission line. *J. Anim. Sci.* 73: 3274-3280.

Vallee, M., S. Maccari, F. Dellu, H. Simon, M. Le Moal, and W. Mayo. 1999. Long-term effects of prenatal stress and postnatal handling on age-related glucocorticoid secretion and cognitive performance: a longitudinal study in the rat. *Eur J Neurosci*. 11: 2906-2916.

Veterany, L., and S. Hluchy. 2001. Effect of magnetic field on chicken hatching. *Czech J. Anim. Sci*. 46: 289-291.

Attachment to Submission BO128 (Steve & Anne Gaspar, Manuel Gaspar & Son Dairy, October 13, 2011) - Gaspar_Letter_Attachments.pdf - Continued

Weinstock, M. 1997. Does prenatal stress impair coping and regulation of hypothalamic-pituitary-adrenal axis? *Neurosci. Biobehav. Rev.* 21: 1-10.

Wenzel, C., A.C. Woehr, J. Unshelm. 2002. Das Verhalten von Milchrindern unter dem Einfluss elektromagnetischer Felder. *Der Praktische Tierarzt.* 83:260-267.

Williams, M.T., H.N. Davis, A.E. McCrea, and M.B. Hennessy. 1999. Stress during pregnancy alters the offspring hypothalamic, pituitary, adrenal, and testicular response to isolation on the day of weaning. *Neurotoxicol. Teratol.* 21: 653-659.

Table 1 Milk yield (kg)

Month of lactation	Trial group	Control group	d	F-test					
n	Mean	SD	n	Mean	SD	a	b		
1.	13	861.4	105.8	12	856.9	163.5	4.5	1.216	0.008
2.	13	956.5	92.3	12	974.2	141.7	-17.7	0.286	0.160
3.	13	872.1	99.2	12	915.3	133.6	-43.2	1.173	0.976
4.	13	838.1	120.4	12	885.0	137.4	-46.9	0.980	0.700
5.	13	799.6	130.4	12	821.4	165.9	-21.8	0.651	0.154
6.	13	718.1	129.2	12	733.6	167.6	-15.5	1.280	0.078
7.	11	633.2	97.0	12	650.2	167.0	-17.0	3.182 +	0.121
8.	11	552.5	121.9	12	592.9	143.6	-40.4	1.686	0.719
9.	11	471.5	161.1	11	525.3	110.8	-53.8	2.017	1.176
10.	8	417.2	253.3	8	582.6	225.3	-165.4	0.618	5.303 +
305 days	11	6910.5	860.1	12	7423.1	722.7	-512.6	2.430 +	3.780 +

+ $P < 0.05$

a - animals; b - treatment; d - difference

Submission BO129 (Walter Bricker, Melga Canal Company, October 11, 2011)

MELGA CANAL COMPANY
Post Office Box 877
Corcoran, California 93212
(559)-992-5011

October 11, 2011

California High-Speed Rail Authority
770 "L" Street, Suite 800
Sacramento, CA 95814

Subject: High-Speed Rail Project
Fresno to Bakersfield Draft EIR/EIS Comments

Dear Authority Members:

This letter is written on behalf of Melga Canal Company regarding the *Fresno to Bakersfield Draft EIR/EIS*. The Melga Canal Company, a private mutual ditch company, owns and operates a water conveyance system in Kings County on behalf of its shareholders. The proposed C1 alignment, as well as all of its variations, crosses our system near S.H. 43 and Jackson Ave.

Our comments on the Draft EIR/EIS are as follows:

1. We have reviewed the comments regarding the Draft EIR/EIS that were submitted by the Kings River Conservation District, Kings County Water District, Peoples Ditch Company, Last Chance Water Ditch Company, Lakeside Ditch Company, and other parties that operate water conveyance systems. We support, endorse, and join in those comments.

2. The Draft EIR/EIS does not address the incremental time and expense that will be required to operate and maintain our system as a result of the proposed rail crossing blocking vehicle and equipment access along the canal. Personnel operating vehicles and equipment will have to spend additional time traveling around this obstruction. This additional travel time will result in increased expenses to the Company. The Draft EIR/EIS does not address how the HSR Project will mitigate these potentially significant impacts to our operation and maintenance functions.

3. The Draft EIR/EIS does not address how the access blockage caused by the proposed rail crossing will delay our ability to respond to emergencies along the canal in the vicinity of the crossing.

4. The Draft EIR/EIS does not address the anticipated increase in time and cost to repair and maintain the canal in the immediate vicinity of the proposed crossing.

The significance of our comments, and those of others with similar issues, warrants preparation of another draft of the EIR/EIS in which these comments are properly addressed.

Yours truly,

BO129-1,2,3

Walter Bricker, President

Response to Submission BO129 (Walter Bricker, Melga Canal Company, October 11, 2011)

BO129-1

Refer to Standard Response FB-Response-AG-02.

Volume III contains the alignment plans and maps of parcels directly affected by the project and shows Jackson Ave would pass over the proposed HST along the existing road alignment. The canal running parallel to the road would be diverted at the south end. Therefore, access to the canal from Jackson Avenue would not be obstructed.

BO129-2

An overpass would be provided on Jackson Avenue so that the road would not be closed to traffic and cause a delay to maintenance crews working on the canal at SR 43 and Jackson Avenue. In addition, a portion of the canal would be placed in a pipe to cross the road overcrossing embankment.

BO129-3

Refer to Standard Response FB-Response-AG-04.

Volume III contains the alignment plans and maps of parcels directly affected by the project and show Jackson Ave would pass over the proposed HST along the existing road alignment. The canal running parallel to the road would be diverted at the south end. Therefore, access to the canal from Jackson Avenue would not be obstructed.

Submission BO130 (Warren Minner, Minner & Associates, Stinnett-Koo Structural Engineers, October 3, 2011)

Public Hearing of 9/22/2011

CALIFORNIA High-Speed Rail Authority

10-03-11P03:04 RCVD

Comment Card
Tarjeta de Commentarios

Fresno to Bakersfield High-Speed Train Section
Draft Environmental Impact Report/ Environmental Impact Statement (EIR/EIS)
Public Hearings
September 2011

Please submit your completed comment card at the end of the meeting, or mail to:

Fresno to Bakersfield DEIR/EIS Comment, 770 L Street, Suite 800, Sacramento, CA 95814

La Sección de Fresno a Bakersfield del Tren de Alta Velocidad Proyecto de Informe de Impacto Ambiental/ Declaración de Impacto Ambiental (EIR/EIS)
Audiencias Públicas
Septiembre del 2011

Por favor entregue su tarjeta completada al final de la reunión, o envíela por correo a la siguiente dirección:

The comment period is from August 15 28, 2011. Comments must be received el postmarked, on or before Septem

Extended comment period for Fresno to Bakersfield High-Speed Train Draft EIR/EIS:
August 15-October 13

es del 15 de Agosto al 28 . Los comentarios tienen que ser de, o matasellados, el o antes l 2011.

Name/Nombre: Warren A. Minner
Organization/Organización: Minner & Associates, Stinnett - Koo Structural Engineers
Address/Domicilio: 1716 Oak Street, #21
Phone Number/Número de Teléfono: 661-324-9724
City, State, Zip Code/Ciudad, Estado, Código Postal: Bakersfield, CA 93301-3040
E-mail Address/Correo Electrónico: wminner@mskaengineering.com
(Use additional pages if needed/Usar paginas adicionales si es necesario)

COMMENTS

BO130-1 1.) Define all acronyms. Define all railroad, state and civil/structural engineering terms. These definitions should be written for understanding by 8th grade school graduates.

BO130-2 2.) Provide larger scale maps with section drawings drawn to scale of all items included in the cost estimates of the six high speed train alternatives.

BO130-3 3.) List what each alternative **includes** and what is **not included** in simple outline form on a single page (11" x 17") with maps and sections drawn to scale.

BO130-4 4.) List comments made by reviewers for each alternative (3-4 word summary). Include politicians' comments.

5.) Submit to the Authority and all interested parties for additional reviews and comments.

6.) Thank you.

Warren A. Minner

Response to Submission BO130 (Warren Minner, Minner & Associates, Stinnett-Koo Structural Engineers, October 3, 2011)

BO130-1

Acronyms and abbreviations are defined in Chapter 13, Acronyms and Abbreviations, of the EIR/EIS. Key terms are defined in Chapter 11, Glossary of Terms, of the EIR/EIS. The EIR/EIS document, including these two chapters, has been developed for a layperson or a person with a non-technical background.

BO130-2

An EIR project description is intended to be general, not detailed (CEQA Guidelines §15124(c).) Final design or even advanced design of infrastructure is not required in the project description (*Dry Creek Citizens Coalition v. County of Tulare* (1999) 70 Cal.App.4th 20, 36.) The question is whether the project description narrowed the scope of environmental review, or prevented full understanding of the project and its consequences (Ibid).

Abundant substantial evidence in the record demonstrates the project description is more than adequate for the environmental analysis of the project and to provide a full understanding of the project and its consequences. The requested drawings are not required to understand the project or its consequences. The EIR/EIS contains detailed information for environmental analysis of the project, like the horizontal and vertical location of track, cross sections of the infrastructure with measurements, precise station footprints with site configuration, and temporary construction staging sites and facilities. The EIR/EIS provides a "project footprint" overlaid on parcel maps, which shows the outside envelope of all disturbance, including both permanent infrastructure and temporary construction activity. This translates into a project description in the EIR with 100% of the information that is required under CEQA Guidelines Section 1512447 (*Dry Creek*, supra, 70 Cal.App.4th at pp. 27-36 [upholding EIR conceptual project description as inadequate when based on preliminary design]).

BO130-3

Chapter 2, Alternatives, of the Revised DEIR/Supplemental DEIS includes descriptions of each of the project alignment, station, and heavy maintenance facility alternatives under consideration for the Fresno to Bakersfield Section of the HST System. Large and smaller scale maps of the alternatives are also provided in Chapter 2 as well as in each of the resource chapters in the Revised DEIR/Supplemental DEIS (Sections 3.2, Transportation; 3.3, Air Quality and Global Climate Change; 3.4, Noise and Vibration;

BO130-3

etc.) where appropriate.

BO130-4

In accordance with NEPA and CEQA requirements, all comments received on the Draft EIR/EIS and Revised DEIR/Supplemental DEIS are provided in Volumes IV and V of the Final EIR/EIS. Responses have been provided for all responsible comments received on environmental issues as set forth in 14 CCR §15088(a) and FRA Procedures for Considering Environmental Impacts 14(s).

Submission BO131 (No Name, National Hmong American Farmers, September 21, 2011)

September 19, 2011

09-21-11P04:32 RCVD

Board of Directors
California High Speed Rail Authority
770 L Street, Suite 800
Sacramento, CA 95814

Re: Request for Extension of EIR/EIS Comment Period - Fresno to Bakersfield Section

Dear Chairman and Members of the Board:

BO131-1 We support the request of J.G. Boswell Company, dated September 8, 2011, for an extension of time to review the EIR/EIS documents of at least 180 days.

Signed:

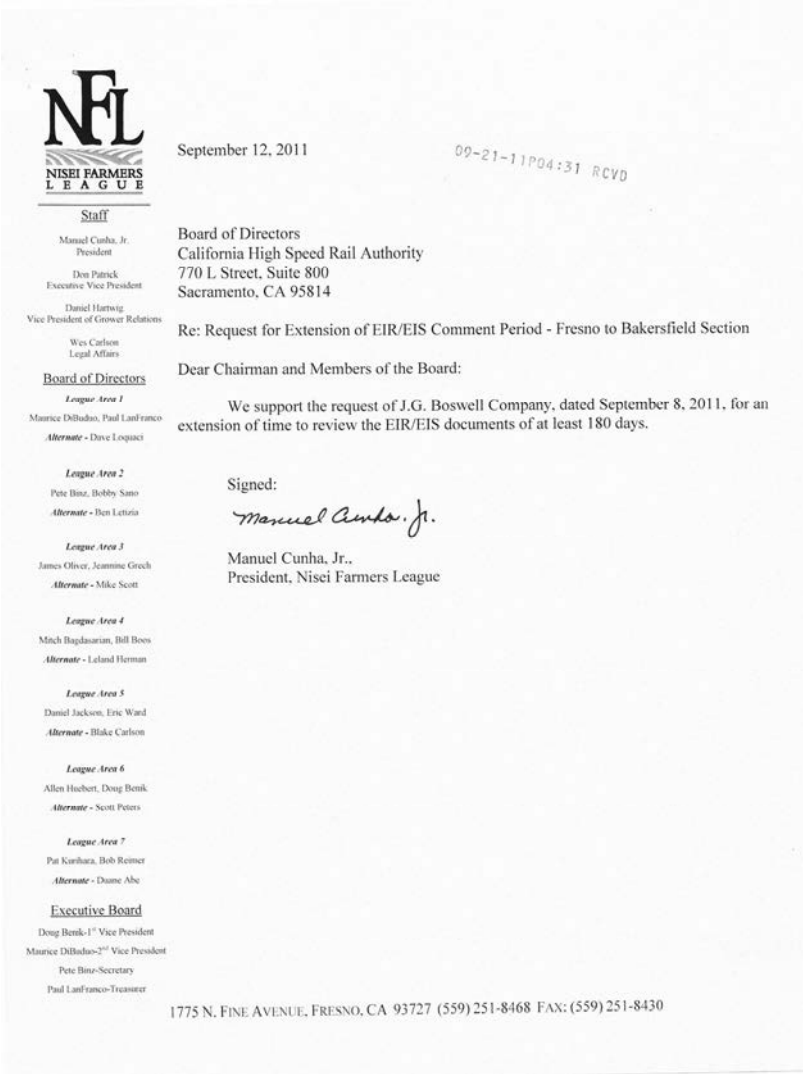
National Hmong American Farmers

Response to Submission BO131 (No Name, National Hmong American Farmers, September 21, 2011)

BO131-1

Refer to Standard Response FB-Response-GENERAL-07.

Submission BO132 (Manuel Cunha, Jr., Nisei Farmers League, September 21, 2011)



NISEI FARMERS LEAGUE

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Don Patrick
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Legal Affairs

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Pete Binz-Secretary
Paul LanFranco-Treasurer

September 12, 2011

09-21-11P04:31 RCVD

Board of Directors
California High Speed Rail Authority
770 L Street, Suite 800
Sacramento, CA 95814

Re: Request for Extension of EIR/EIS Comment Period - Fresno to Bakersfield Section

Dear Chairman and Members of the Board:

BO132-1 We support the request of J.G. Boswell Company, dated September 8, 2011, for an extension of time to review the EIR/EIS documents of at least 180 days.

Signed:

Manuel Cunha, Jr.

Manuel Cunha, Jr.,
President, Nisei Farmers League

1775 N. FINE AVENUE, FRESNO, CA 93727 (559) 251-8468 FAX: (559) 251-8430

Response to Submission BO132 (Manuel Cunha, Jr., Nisei Farmers League, September 21, 2011)

BO132-1

Refer to Standard Response FB-Response-GENERAL-07.

Submission BO133 (Victor Martinov, On behalf of Lazy H Mobile Ranch, September 26, 2011)

Fresno - Bakersfield - RECORD #333 DETAIL

Status :	Action Pending
Record Date :	9/29/2011
Response Requested :	No
Stakeholder Type :	Other
Submission Date :	9/26/2011
Submission Method :	Project Email
First Name :	Victor
Last Name :	Martinov
Professional Title :	
Business/Organization :	On behalf of Lazy H Ranch
Address :	
Apt./Suite No. :	
City :	
State :	CA
Zip Code :	93312
Telephone :	
Email :	slprop@verizon.net
Email Subscription :	Fresno - Bakersfield
Cell Phone :	
Add to Mailing List :	Yes

Stakeholder Comments/Issues :

From: slprop [mailto:slprop@verizon.net]
Sent: Monday, September 26, 2011 08:05 PM
To: Nicholas, Rebecca
Subject: Re: DRAFT EIR/EIS COMMENT - FRESNO TO BAKERSFIELD High-Speed Rail

9/26/11

Rebecca -

Here are some added concerns regarding the Draft EIR/EIS for Fresno to Bakersfield Section.

Concerning: 2500 Jewetta Avenue, Bakersfield, CA 93312
Known as Lazy H Ranch, APN #110-010-12-00-0

The "Lazy H Ranch" consists of 87 individually owned manufactured homes which are on lots that are leased from the landowner. This development has been in existence for over 40 years and affords a unique peaceful lifestyle with amenities that include a swimming pool, clubhouse and park areas.

BO133-1

I need to emphasize, the impact of the SOUND, VIBRATION and other negative aspects of a High-Speed Train in the immediate proximity of our community would be unbearable to the tenants and would cause the dissolution of the community.

Beyond the physical impacts, the impact of the possibility of a High-Speed Train will discourage new tenants and affect the value of the homes as well as the value of the land.

Under these circumstances, the economic viability of the Lazy H Ranch as a business venture will be destined to ruin and the individual homeowners will suffer the economic loss of their homes.

Thank you.

Victor Martinov

EIR/EIS Comment : Yes

Response to Submission BO133 (Victor Martinov, On behalf of Lazy H Mobile Ranch, September 26, 2011)

BO133-1

Refer to Standard Response FB-Response-SO-01, FB-Response-N&V-04, FB-Response-N&V-05, FB-Response-SO-02.

None of the project alternatives would result in the acquisition of homes in the Lazy H Mobile Home Park. The HST right-of-way would be situated in the existing BNSF Railway right-of-way at this location. Please refer to Appendix 3.1-A of the EIR/ EIS for parcel impacts by the project footprint.

The project alignment in the area adjacent to the Lazy H Community has been moved to run along the east side of the BNSF right-of-way. The location of this updated alignment will put the centerline at a distance of at least 78 feet from the eastern property line of the Lazy H Community. As a result, the noise barrier for this alignment would also be located on the east side of the BNSF alignment as opposed to running along the east side of the Lazy H Community.

As stated in Section 3.4.7 of the Revised DEIR/Supplemental DEIS, there are a number of mitigation measures proposed to reduce noise impacts to severely affected receivers. If these measures are found to be infeasible, as could be the case with some manufactured housing, then the Authority would acquire easements in which the homeowners would accept the future noise conditions. This approach is usually taken only in isolated cases where other mitigation options are infeasible, impractical, or too costly.

Mitigation Measure N&V-MM#8 states that vibration mitigation measures may be installed to reduce operational vibration levels to acceptable levels at adjoining properties. The types of vibration mitigation that may be applied are listed in Table 3.4-32. The specific type of mitigation will be selected during final design, and before operations begin.

For information on the potential long-term impacts on property values, see Section 5.4.4.3 in the Community Impact Assessment Technical Report (Authority and FRA 2012g).

Submission BO134 (Robert E. Geis, Pacific AG Management Inc., October 12, 2011)

PACIFIC AG
Management Inc.

Tel: 661-587-2250
Fax: 661- 587-2254

P.O.Box 1200
29341 Kimberlina Rd.
Wasco, CA 93280

October 10, 2011

California High Speed Rail Authority
770 L Street, Suite 800
Sacramento, CA 95814

Re: Comments on California High Speed Train Project, Fresno to Bakersfield Section Draft Environmental Impact Statement/Environmental Impact Report

Ladies and Gentlemen:

Attached are the comments being submitted on behalf of Wasco Real Properties I and Wasco Real Properties II on the High Speed Train Fresno to Bakersfield Section Draft Environmental Impact Statement/Environmental Impact Report.

Thanks you for your attention to this matter.

Sincerely,

Robert E. Geis
Vice President, Finance
& Operations

Attachment: Comments on California High-Speed Train Project: Fresno to Bakersfield Section Draft Environmental Impact Report/Environmental Impact Statement

Wasco Real Properties I & Wasco Real Properties II
Comments on California High-Speed Train Project:
Fresno To Bakersfield Section
Draft Environmental Impact Report/
Environmental Impact Statement

Following are comments on the California High-Speed Train: Fresno To Bakersfield Section Draft Environmental Impact Report/Environmental Impact Statement ("EIR") prepared by the California High Speed Rail Authority and the Federal Railroad Administration the numbered references below correspond with the section numbers of the EIR):

Overall:

BO134-1

Throughout the document, the BNSF alignment is given upfront with the total impacts for this entire segment. Then each alternative alignment is listed. It is inappropriate, and not-conclusive, to compare the alternative, which is a small segment of the larger segment, to the entire segment. It is comparing apples and oranges. Alternatively, the comparison should be between the alternative and the associated sector of the entire line. For example, in Wasco-Shafter area, the Bypass should be compared with the section from where the bypass leaves the BNSF alignment in the north to where it rejoins the BNSF alignment in the south. This would be a meaningful comparison.

Summary Section:

BO134-2

Table S-2 – Comparison of Impacts of HST Alignment Alternatives – Page S-25
Agricultural Lands - AG #1: Number of acres of agricultural land converted to nonagricultural use.

BNSF = 2,192 acres Wasco Bypass #5 – 2,317 acres

This appears to be a calculation of only the 100 ft. right of way as the loss of productive ag land and it is underestimated. In the report, it indicates that the Wasco-Shafter Bypass is 23 miles long (the document is not consistent – in some places it indicates 23 miles, in Section 4 it indicates 24 miles). A 100 ft right of way for that length is 279 acres. It is also indicated that the number of acres for remnant parcels created has been included in that number. This would only make the 279 larger. This does not account for the prime farmland that will also be lost to accommodate "turnarounds" on either side of the right-of-way. Those turnarounds would be 40 feet on either side of the right of way and would convert productive prime agricultural land in to bare, unproductive land. This would mean another 223 acres of prime agricultural land would lose its producing capacity.

BO134-3

Table S-2 – Page S-26 - Because each alternative and segment is considered individually, the cumulative impacts of the entire loss of farmland is not taken in to account and is grossly understated. Cumulative impact analysis is required. Therefore, looking at only the Fresno to Bakersfield Segment of the statewide project does not allow for the assessment of cumulative impacts of prime farmland lost due to the entire

Submission BO134 (Robert E. Geis, Pacific AG Management Inc., October 12, 2011) - Continued

project. In addition, within the Fresno-Bakersfield Segment, only looking at each alternative, understates the cumulative loss of farmland.

BO134-4

Table S-3 – HST Mitigation Measures – page S-27- From page 3.14-36 – "Some agricultural land outside of the permanent right-of way would be used for construction activities such as staging areas and material laydown areas. This land would be leased from the landowner and used for 1 to 3 years for construction. After construction, the land would be restored to its original condition and returned to the owner. These impacts are negligible under NEPA and less than significant under CEQA because the land would be used temporarily and restored; the land would not be permanently converted to a nonagricultural use." Comment: This does not contemplate the fact that many of the crops on the land they would use are permanent crops. If they take out an almond orchard that is 7th leaf and is just beginning full production, "restoring the land to its original condition" would take 7 years. See my further comment later in this document with same page reference.

BO134-5

S.8.1 - stats "no substantial effect on energy and HSR's goal is to purchase all power from renewal energy sources". The EIR should validate the energy is available. Where will it come from? Biomass is currently undersupplied, leaving solar plus wind. PG&E currently gives cash payments to shut off during peak hrs. Who will get the priority? HRS or agricultural pumps? The HRS authority says they will have energy because they will pay more. The EIR does not address what will happen to other users when HRS takes their energy.

BO134-6

TR #1: Permanent road closures.
TR-MM #1: "Access maintenance for property owners." Quoted from Draft EIR: "Maintain access for owners to property within the construction area. If a proposed road closure restricts current access to a property, provide alternative access via connections to existing roadways. If adjacent road access is not available, prepare new road connections, if feasible. If alternative road access is not feasible, the property would be considered for acquisition." Comment: This does not specifically address the fact that a farmer would have to drive equipment long distances in order to access the other side of his field, which was cut in two by the rail. There is not a mitigation measure to address the additional cost of wear, tear and labor in order to deal with this. Importance should be given to road closures as they will increase VMT, increase tractor and ag truck traffic. Closures will require the long way around, decreasing efficiency. There will be more disruption of wildlife.

BO134-7

Air Quality and Global Climate Change – Section 3.3

BO134-8

HSR only improves air quality at maximum ridership. Are ridership estimates reliable??

BO134-9

HSR adversely affects air quality during construction.

Energy – Section 3.6

BO134-10

The report indicates: "Where existing underground utilities such as gas, petroleum, and water pipelines cross the HST alignment, the utilities would be placed in a protective casing so that future maintenance could be accomplished outside of the HST right-of-way. Comment: In many of the permanent plantings, there is a complex set of mainlines, submains and manifolds buried underground to deliver water to the crop. Is it realistic to think that all of these pipes would be placed in protective casing?

BO134-11

The report states: "The Wasco-Shafter Bypass Alternative would have a greater impact on petroleum and fuel pipelines than would the corresponding section of the BNSF Alternative. There is an active oil field east of Wasco and an oil collection tank facility on a large adjacent land parcel. The Wasco-Shafter Bypass would avoid the oil storage tank facility; however, a number of oil wells would be displaced. The cost for well decommissioning and replacement would be borne by the Authority, and the effect upon the capacity or viability of the petroleum resource and industry extraction operations as a whole would be less than significant. The impact of this alternative would be less than significant. Comment: The Wasco-Shafter Bypass would negatively affect the mineral owner's future value of oil revenue. If the track goes through the middle of the North Shafter Field, it will impact all mineral owners. Land encumbered by railroad tracts will limit the possibilities of future drill sites and future revenues from oil exploration. It will be impossible to weave through the North Shafter Field – therefore, the costs have been grossly underestimated.

BO134-12

Page 3.6 – 52 – Public Utilities and Energy – Stated in the report: "The Wasco-Shafter Bypass Alternative would avoid conflicts with the City of Wasco water system but would conflict with one more irrigation pipeline (owned by the Shafter-Wasco Irrigation District) than would the BNSF Alternative. The Authority would work with the Shafter-Wasco Irrigation District, as well as any other irrigation districts affected by the project, to protect irrigation systems. Canals may be bridged or placed in pipelines beneath the HST right-of-way. Irrigation pipelines crossing the alignment would be buried to an appropriate depth to sustain the weight of the HST and placed in protective casing so they could be accessed from outside of the HST. Therefore, the Wasco-Shafter Bypass Alternative would not result in prolonged disruption of services because of the need for relocation of or improvements to irrigation systems. This impact would be less than significant. Comment: If the report is talking about irrigation systems on specific farms there would be a significant number of irrigation lines in casings – there are mainlines, submainlines, manifolds – all crossing under the rail. This would be a maintenance nightmare. So, is this suggesting that they all these lines would be encased? If not, the farmer would need to be compensated to redesign their irrigation system so there would not be a complex system under the rail line.

BO134-13

Page 3.6-65 – The report states: "Summer 2010 electricity reserves were estimated to be between 27,708 MW for 1-in-2 summer temperatures and 18,472 MW for 1-in-10 summer temperatures (Pryor et al. 2010). The projected peak demand of the HST is not anticipated to exceed these existing reserve amounts. Although it is not possible to

Submission BO134 (Robert E. Geis, Pacific AG Management Inc., October 12, 2011) - Continued

BO134-13

predict supplies for 2035, provided the planning period available and the known demand from the project, energy providers have sufficient information to include the HST in their demand forecasts. The project's impact on peak electricity demand would be less than significant. Comment: Farmers are encouraged and incentivized to reduce energy use during peak, and in some cases are asked to not use power during the peak times – this indicates a shortage exists. The EIR Draft does not really go in to the overall state energy shortages that currently exist and how those will be dealt with when the system is further taxed in terms of energy usage.

Agricultural Lands – Section 3.14:

Page 3.14-9 – "According to CEQA Guidelines Appendix G, the project would result in a significant impact on agricultural lands if it would result in the following:
• Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to a nonagricultural use.
• Conflict with existing zoning for agricultural use or a Williamson Act contract.
• Involve other changes in the existing environment that would result in conversion of farmland to non-agricultural use because of their location or nature."

BO134-14

Comment: Having the rail go through the property is a change in the existing environment and placement of the right of way would result in conversion of an additional 40 feet on either side for turnarounds – therefore, additional prime farmland would be lost because it was taken out of production due to the rail. This needs to be accounted for in the cumulative impact of loss of farmland.

BO134-15

Page 3.14-23 – "Based on the California Department of Conservation enrollment figures for 2008 (DOC 2010), none of the counties have land in agricultural conservation easements. Tulare County has an additional 686 acres of agricultural land protected by other enforceable restrictions (DOC 2010)."

Comments:

- These numbers need to be updated as there have been several agricultural conservation easements placed on land in 3 of the 4 counties. In all cases, Department of Conservation has been one of the funders, and in several cases, the Farm and Ranch Lands Program (federal funding) has been a matched funder.
- It is important to make the point that in the area of the Wasco-Shafer bypass, there are two easements totaling 1,043 acres south of Kimberlina Road and east of Shafter Road. These easements were funded using California State Funding and Federal funding to begin the establishment of a community separator between the Cities of Wasco and Shafter, thereby protecting the prime farmland in between the two cities. It is projected that the community separator will extend west along Kimberlina as well as involves properties south of Kimberlina to Merced Avenue, which is the north end of the City of Shafter. This is an

BO134-15

important point as the bypass would "undo" what public dollars have invested in as a strategy in the area to protect farmland.

- Easements in the four counties:
  - Howe Easement - 153 acres, Kings County. Closed Sept., 2011.
  - Schnitzler Easement - 80 acres, Fresno County and 8 acres in Tulare Co. closed August 26, 2011.
  - Tulare County – 2 easements, Paul and Moore, totaling 100 acres, closed in 2009.

Page 3.14-30 – Wasco-Shafter Bypass – States there are no agricultural conservation easements in the Bypass route. However, it needs to be pointed out that there are agricultural conservation easements in the vicinity that were placed there in order to create a community separator between the cities of Wasco and Shafter. The rail would bifurcate that community separator. The two easements next to Shafter Rd. are the east anchor for the community separator which was a strategic conservation effort funded by public dollars – both state and federal. The community separator is envisioned to go West from the current easements, south of Kimberlina and north of Merced Ave.

Page 3.14 – 42 – states again that there are no ag conservation easements. There are conservation easements.

Page 3.14-31 – A. Overview – 1st paragraph- Quote from document: "The No Project Alternative would result in substantial farmland conversion to accommodate anticipated growth in the region that would occur without the proposed HST project. In comparison, the HST alternatives would convert farmland for construction of the project, but would also provide opportunities for focusing future development on land that is already urbanized. This could reduce the amount of farmland converted to urban uses to accommodate projected future growth, depending on future local land use decisions." Comment: The conjecture that this "could" reduce farmland converted is not adequate justification. Currently, local land use decisions are guided by general plans, yet significant farmland is converted. Unless there is a requirement to conserve farmland, build higher densities, etc., development will continue in the status quo. The reasoning given of "providing opportunities for focusing future development on land that is already urbanized" is not substantiated with any factual evidence or specific information. Without support and backup for this statement, it can only be taken as conjecture and appears to be a rationalization for a desired outcome - that of building the High Speed Train.

Page 3.14-32 – top of page – once again, statement of no ag conservation easements is inaccurate.

Page 3.14, 32-33, Table 3.14-5 – The numbers in the table do not correspond to the numbers/differences in the verbiage immediately preceding. The difference stated is 108 acres, yet the table shows 533 acres of farmland related to the BNSF alternative and 530 related to the Wasco-Shafter Bypass.

Submission BO134 (Robert E. Geis, Pacific AG Management Inc., October 12, 2011) - Continued

BO134-15

Page 3.14-33, Table 3.14-6 – This table is misleading. It compares small alternatives, pieces of the system, to the whole system, making the BNSF alignment look not as favorable. This table should compare "apples with apples" – for example, take the alternative and compare it with the corresponding section of the BNSF.

Page 3.14-36 – Temporary Use of Agricultural Land - Related to construction and the leasing of acreage for 1 to 3 years: if the crop is annual, replacement to original condition is straight forward. However, for permanent crops, the compensation in addition to the leasing of the ground would need to include the replacement of the trees and the loss of the profit for the 3 years that it takes for an almond tree (6 years for pistachios) to get back in to production. With a permanent crop, compensation needs to include getting the orchard back in to production, and that is more costly than simply leasing the property.

Page 3.14-36 - Table 3.14-8 – Important Farmland Temporarily Used for Project Construction – The BNSF alternative uses 855 acres, of that 495 is in the Wasco-Shafter Bypass – is this correct? More than half the important farmland temporarily used for project construction in the Fresno to Bakersfield segment is in the Wasco-Shafter area? This table is confusing and needs better presentation as it does not make sense.

Page 3.14-37 - Temporary Utility and Infrastructure Interruption – This section does not adequately address the fact that redesigning and retrofitting an irrigation system will create more than 24 hours of down time. A significant number of crops are dependent on water and cannot withstand extended periods of time without water, especially if during the heat of summer. If the HSR cuts across your land it could be virtually impossible to irrigate until the irrigation systems are re-established. It could affect the whole parcel for 1-2 years. If the parcel was planted in almonds the crop would die. The HSR authority says Agricultural irrigation systems shall be corrected before the HSR construction begins. But well drilling rigs and PG&E can be a 6 month wait. Is HSR going to finance the costs upfront? The farmer cannot proceed until negotiation is completed plus the final route is determined, putting the farmer and his crops at risk. The costs have been underestimated.

Page 3.14-39 – Second full paragraph – Related to the San Joaquin Valley Blueprint, Scenario B+: the wording here leads the reader to believe that because Scenario B+ included HSR, the reduced impact on farmland was created. The truth of the matter was that Scenario B+ increased densities, unrelated to HSR. That was the sole reason there was a reduction in farmland impacts and therefore incorrect to attribute this to HSR. (Holly King was at the Great Valley Center when the Blueprint was created and voted on, so is knowledgeable on this subject and qualified to dispute the statement in the EIR.)

Section 3.14.6 – Mitigation Measures – Page 3.14-45 – Sequoia Riverlands Trust is the only land trust working in the Fresno, Kings, Tulare and Kern areas that provides the

BO134-15

service of agricultural land conservation. They were overlooked and need to be listed since they are the only local land trust working with irrigated, row and permanent crop land in the four counties covered by this EIR.

Page 3.14-46 – The following statement is made: "The HST-generated wind would not render agricultural lands unusable for farming under any alternative. Therefore, it would not result in an effect." Comment: This statement only evaluates one extreme end of the spectrum – rendering the farmland unusable. The impact to pollination and reduction of yields may not render the farmland unusable, but reduction in yields is an impact to a farm caused by the wind. Being less profitable is an impact.

Page 3.14-46 Table – In the table it indicates that the BNSF alignment impacts 2,210 acres of farmland. How is this calculated? There was no discussion as to how this number was determined. In the summary the number used was 2,192. Which is it?

Cumulative Impacts – Section 3.19

BO134-16

Page 3.19 – 22 The report states: "This would reduce the water demand in those urbanized areas because agricultural uses require more water than required by domestic uses." Comment: This is not a factual statement – it is not true. This statement is not supported with information/research/science. Residential housing requires 1 AF of water per household per year. Almonds use 4 acre feet of water per year. Therefore, an even trade would be 4 houses per acre – and this is not a very dense housing ratio and does not support the claims that HST will have positive impacts on land use planning. If High Speed Rail is going to create more compact growth, and if it is more than 4 units per acre (which it should be), there is not going to be a water savings. In fact, the residential use will consume more water than the agricultural use.

Response to Submission BO134 (Robert E. Geis, Pacific AG Management Inc., October 12, 2011)

BO134-1

To present the environmental analysis as efficiently as possible, a single alignment from Fresno to Bakersfield was identified as an initial point of description and discussion. This alternative, termed the BNSF Alternative, largely parallels the Union Pacific Railroad (UPRR) in Fresno and the BNSF Railway throughout the rest of the alignment except where it bypasses Hanford to the east. Eight other alternative alignments were carried through the EIR/EIS: Hanford West Bypass 1 and 2, Corcoran Elevated, Corcoran Bypass, Allensworth Bypass, Wasco-Shafter Bypass, Bakersfield South, and Bakersfield Hybrid. These alternatives, in combination with sections of the BNSF Alternative, result in a total of 72 possible alignments for the HST between Fresno and Bakersfield.

Presenting the potential impacts for 72 alternatives would make the EIR/EIS unreadable. Therefore, the impact analyses presented by discipline in Chapter 3 of the document begin with a description of impacts associated with the BNSF Alternative, followed by a description of impacts associated with each of the other alternatives. For comparison purposes, the impact analyses also provide a description of the difference in impacts between each of the eight shorter alignment alternatives and the corresponding segment of the BNSF Alternative. The Summary chapter in the EIR/EIS, near the front of the document, provides a table (Table S-2) that compares impacts among all 72 alternatives and the costs of each of the 72 alternatives are provided in Chapter 5.0 of the EIR/EIS.

BO134-2

Refer to Standard Response FB-Response-AG-02 and FB-Response-AG-04.

BO134-3

Refer to Standard Response FB-Response-GENERAL-04.

See Volume I, Section 3.14, Impact AG#4 for information on the permanent conversion of agricultural land, and see Mitigation Measure AG-1 in Volume I, Section 3.14 for measures to preserve the total amount of prime farmland.

BO134-4

Refer to Standard Response FB-Response-SO-01.

BO134-4

For information on the property acquisition and compensation process, see Volume II, Technical Appendix 3.12-A.

BO134-5

Refer to Standard Response FB-Response-PU&E-02.

Management of California's electricity infrastructure and power supply includes demand forecasting, which include buffer, or reserve, electricity generating capacity above expected peak demand that is available to call upon as needed. The EIR/EIS provides information about the proposed project's energy demand in Section 3.6 Public Utilities and Energy, Table 3.6-18, providing information for utility providers to consider it in their demand forecasts. The Fresno to Bakersfield Section of the HST is estimated to require 78 megawatts (MW) of peak demand, which is within existing reserves. The HST project would not require the construction of a separate power source, although it would include the addition and upgrade of power lines to a series of substations positioned along the HST corridor. Please refer to the summary of electricity requirements in Section 2.2.6, Traction Power Distribution, in Chapter 2, Alternatives. Section 3.6.5 C, High-speed Train Alternatives, discusses how the energy demand would be met. Occurrences of brownouts or utility policies to reduce their impact to communities would not be altered by the proposed project.

BO134-6

Refer to Standard Response FB-Response-GENERAL-04 and FB-Response-TR-02.

BO134-7

Refer to Standard Response FB-Response-BIO-01.

BO134-8

For reliability of ridership estimate, please Refer to Standard Response FB-Response-GENERAL-24.

For air quality improvement, please note that the air quality is also improved at the

Response to Submission BO134 (Robert E. Geis, Pacific AG Management Inc., October 12, 2011) - Continued

BO134-8

lower-ridership levels of the higher-fare scenario in the EIR/EIS. See Volume I, Section 3.3, of the Revised DEIR/Supplemental DEIS.

BO134-9

The ridership and revenue model was developed by a nationally recognized leader in forecasting, Cambridge Systematics, Inc. The ridership model is not deficient but "produces results that are reasonable and within expected ranges for the current environmental planning and business plan applications," according to a ridership and revenue peer review panel of leading U.S. and international experts in travel forecasting (Independent Peer Review Panel 2011). Also, the air quality and greenhouse gas analyses in the Revised DEIR/Supplemental DEIS that are related to ridership have been updated to reflect two ridership scenarios—one with fares at 50% of airfare prices and one at 83% of airfare prices—to provide a range of potential impacts.

Although the air quality analysis has identified emission impacts from the project during the construction phase, these impacts will be completely offset to below a level of significance through the Voluntary Emission Reduction Agreement between the Authority and the San Joaquin Valley Air Pollution Control District.

BO134-10

Refer to Standard Response FB-Response-AG-04.

Where existing underground water utilities cross the HST alignment, the affected utilities would be placed in a protective casing either relocated outside the restricted access areas of the HST right-of-way, or they would be modified (i.e., encased in a pipe sturdy enough to withstand the weight of HST System elements) to avoid the conflict. Refer to Section 3.6.5.

BO134-11

Potential future revenues from oil exploration do not relate to environmental issues but are an economic concern. CEQA Guidelines Section 15382 states that an economic or social change by itself shall not be considered a significant effect on the environment. Section 3.6 Public Utilities and Energy of the Revised DEIR/Supplemental DEIS acknowledges that the Wasco-Shafter Bypass would avoid the oil storage tank facility; however, a number of oil wells would be replaced within large, existing tracts. The cost for well decommissioning and replacement would be borne by the Authority, and the effect on the capacity or viability of the petroleum resource and industry extraction operations relative to public utilities and energy were determined to be less than significant.

BO134-12

Refer to Standard Response FB-Response-AG-04.

Where existing underground water utilities cross the HST alignment, the affected utilities would be placed in a protective casing either relocated outside the restricted access areas of the HST right-of-way, or they would be modified (i.e., encased in a pipe sturdy enough to withstand the weight of HST System elements) to avoid the conflict. Where it is not possible to avoid utilities, they would be improved (e.g., steel pipe encasement) so that there is no damage or impairment to the operation of these utilities from the HST project. Refer to Section 3.6.5.

BO134-13

Refer to Standard Response FB-Response-PU&E-02.

California's electricity grid would power the proposed HST System. Management of California's electricity infrastructure and power supply includes demand forecasting, which include buffer, or reserve, electricity generating capacity above expected peak demand that is available to call upon as needed. The Fresno to Bakersfield Section of the HST is estimated to require 78 megawatts (MW) of peak demand, which is within existing reserves. Occurrences of brownouts or utility policies to reduce their impact to communities would not be altered by the proposed project.

BO134-14

Refer to Standard Response FB-Response-SO-04 and FB-Response-AG-04.

See Volume I, Section 3.14, Impact AG#5 for more information on effects on agricultural

Response to Submission BO134 (Robert E. Geis, Pacific AG Management Inc., October 12, 2011) - Continued

BO134-14

land from parcel severance.

BO134-15

Please see Volume I, Section 3.14.4, as information has been updated on conservation easements. Information from local land trusts and the California Department of Conservation shows that the project crosses counties with agricultural land under conservation easements; however, none of that land is within a mile of any of the project alternatives.

BO134-16

The text of the Revised DEIR/Supplemental DEIS has been updated as a result of the continuing project design, comments received on the Draft EIR/EIS, and additional consultation with public agencies. Cumulative impacts associated with water use are described in Section 3.19, Cumulative Impacts, subsection Hydrology and Water Resources – Water Use. A detailed comparison of water usage between existing land uses and future land uses with the implementation of the HST is described in Appendix 3.6-B, Water Usage Analysis Technical Memorandum. Water usage rates by land use type, including residential, industrial, and agricultural uses, are provided in the technical memorandum.

Submission BO135 (Dale Overbay, Pacific Gas & Electric Company, October 12, 2011)

Fresno - Bakersfield - RECORD #584 DETAIL

Status :	Action Pending
Record Date :	10/12/2011
Response Requested :	No
Stakeholder Type :	Business
Submission Date :	10/12/2011
Submission Method :	Website
First Name :	Dale
Last Name :	Overbay
Professional Title :	Land Agent
Business/Organization :	Pacific Gas & Electric Co.
Address :	
Apt./Suite No. :	
City :	Fresno
State :	CA
Zip Code :	93710
Telephone :	559-263-7372
Email :	dwo4@pge.com
Email Subscription :	Fresno - Bakersfield
Cell Phone :	
Add to Mailing List :	Yes

Stakeholder Comments/Issues :

BO135-1

Dear California High-Speed Rail Authority:

Thank you for the opportunity to review the Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the proposed High-Speed Train Project for the Fresno to Bakersfield Section. Pacific Gas and Electric Company (PG&E) has the following comments to offer regarding the proposed project.

Cost and Planning

The California High-Speed Rail Authority (Authority) would be responsible for the costs associated with the relocation of existing PG&E facilities to accommodate their proposed development. Because PG&E utility relocations require long lead times and are not always feasible, the Authority is encouraged to consult with PG&E early and often during the planning and design phases of the High-Speed Train project.

California Public Utilities Commission

Section 3.6 (Public Utilities and Energy) of the Draft EIR/EIS should include General Order 131-D mandated by the California Public Utilities Commission (CPUC) for the proposed rail project.

General Order 131-D

PG&E is subject to the jurisdiction of the CPUC and must comply with CPUC General Order 131-D on the construction, modification, alteration, or addition of all electric transmission facilities (i.e., lines, substations, switchyards, etc.). In most cases where PG&E's electric facilities are under 200 kV and are part of a larger project (e.g., electric generation plant), G.O. 131-D exempts PG&E from obtaining an approval from the CPUC provided its planned facilities have been included in the larger project's California Environmental Quality Act (CEQA) review, the review has included circulation with the State Clearinghouse and review by the CPUC, and the project's lead agency (e.g., Authority) finds no significant unavoidable environmental impacts. PG&E or the Authority may proceed with construction once PG&E has filed notice with the CPUC and the public on the project's exempt status, and the public has had a chance to protest PG&E's claim of exemption. If PG&E facilities are not adequately evaluated in the larger project's CEQA review, or if the project does not qualify for the exemption, PG&E may need to seek approval from the CPUC (i.e., Permit to Construct), taking as much as 18 months or more since the CPUC would need to conduct its own environmental evaluation (e.g., Environmental Impact Report).

When PG&E's transmission lines are designed for immediate or eventual operation at 200 kV or more, G.O. 131-D requires PG&E to obtain a Certificate of Public Convenience and Necessity (CPCN) from the CPUC unless one of the following exemptions applies: the replacement of existing power line facilities or supporting structures with equivalent facilities or structures, the minor relocation of existing facilities, the conversion of existing overhead lines (greater than 200 kV) to underground, or the placing of new or additional conductors, insulators, or their accessories on or replacement of supporting structures already built. Obtaining a CPCN can take as much as 18 months or more if the CPUC needs to conduct its own CEQA review, while a CPCN with the environmental review already done would take an average of four to six months.

In summary, regardless of the voltage of PG&E's facilities that must be relocated, PG&E recommends that the Authority include a description and environmental evaluation of the relocations in its CEQA review so

Submission BO135 (Dale Overbay, Pacific Gas & Electric Company, October 12, 2011) - Continued

BO135-1

that permitting for the relocation of PG&E facilities does not delay the Authority's project. The proposed project's potential relocations, modification, alteration, or addition of PG&E's electric transmission facilities and substations should be coordinated with PG&E prior to the finalization of the proposed project's EIR/EIS. According to the Public Utilities and Energy Section of Final EIR/EIS, it only states that the Authority "would work with utility owners during the final engineering design and construction of the project to relocate utilities or protect them in place" and not during the environmental document phase of the project. Instead, PG&E recommends that the Authority consult with PG&E on specifically identifying, evaluating, and describing in the proposed project's Final EIR/EIS the proposed work, locations, and impacts to these transmission facilities and substations. This would include but not be limited to the following:

BO135-2

• Footprint of such facilities and substations with proposed construction to be included in the habitat and wetland total affected acreages of the Biological Resources and Wetlands Section (Section 3.7).

BO135-3

• Historical resources 45 years and older impacted by construction of such facilities and substations to be included in the Cultural Resource Section (Section 3.17).

BO135-4

• Visual simulations of such facilities and substations after construction to be included and evaluated in the Aesthetic and Visual Resources Section (Section 3.16).

BO135-5

• A commitment that the work and impacts of such facilities and substations to be included as appropriate in the permits and authorizations required by resource agencies which includes the Biological Opinion (U.S. Fish and Wildlife Service), 401 (California Regional Water Quality Control Board), 404 (U.S. Army Corps of Engineers), Streambed Alteration Agreement (California Department of Fish and Game), and the concurrence with the cultural resource findings by the California State Historic Preservation Officer.

These actions could potentially reduce the project's cost and schedule by eliminating the need for additional environmental evaluation for the modification of the electric transmission and substation facilities. The Public Utilities and Energy Section does not identify all or evaluate potential impacts to specific PG&E facilities. The Authority should consult with PG&E for additional information and assistance in the development of potential impacts to PG&E facilities to make this a legally-adequate environmental review.

BO135-6

Planned and Unplanned PG&E Projects

PG&E also recommends that the Authority consult with PG&E on planned and potential future PG&E facility improvements and expansion plans. It is recommended that the Authority should identify and evaluate early on with PG&E potential future impacts to PG&E facilities and the potential for those facilities to accommodate future electricity and gas demand.

BO135-7

Access and Maintenance

The Public Utilities and Energy Section (Section 3.6), states the High-Speed Train "right-of-way would be fenced and secured after construction, and maintenance access for utilities that remain within the right-of-way would be limited." PG&E owns and operates electric and gas transmission lines and distribution facilities, substations and other PG&E facilities and properties along the proposed project boundaries.

BO135-7

To promote the safe and reliable maintenance and operation of utility facilities, the CPUC has mandated specific clearance requirements between utility facilities and surrounding objects or construction activities. To ensure compliance with these standards, the Authority should coordinate with PG&E early in the development of their project plans. Any proposed development should provide for unrestricted utility access and prevent easement encroachment where possible that might impair the safe and reliable maintenance and operation of PG&E's facilities.

Utility Coordination

According to the Public Utilities and Energy Section, it states that the Authority "would work with utility owners during the final engineering design and construction of the project to relocate utilities or protect them in place." PG&E recommends for the Authority to coordinate with PG&E during all project phases including the environmental document/project report, permitting, engineering and design, right-of-way acquisition, and construction phases.

BO135-8

Permitting
PG&E recommends that the Authority coordinate with PG&E on the development and review of agency permits and authorizations required. Construction work and design of utility facilities should be included as appropriate in the permits and authorizations required by resource agencies which includes the Biological Opinion (U.S. Fish and Wildlife Service), 401 (California Regional Water Quality Control Board), 404 (U.S. Army Corps of Engineers), Streambed Alteration Agreement (California Department of Fish and Game), and the concurrence with the cultural resource findings by the California State Historic Preservation Officer.

BO135-9

Engineering and Design
PG&E recommends that the Authority coordinate with PG&E on potential utility design and high-speed rail design adjacent to PG&E facilities during and prior to the design phases including the environmental document phase. Conceptual designs should be discussed early so that potential utility impacts could be adequately detailed in the Final EIR/EIS (See above, General Order 131-D). Early coordination would also avoid and minimize utility impacts such as ensuring proper rail facility vertical clearances for utility towers.

BO135-10

Right-of-Way
PG&E recommends that the Authority coordinate with PG&E during the right-of-way phase to ensure PG&E utility right-of-way rights are properly negotiated and terms satisfactory to PG&E requirements.

Electricity Demand

BO135-11

The Public Utilities and Energy Section, states that "Although it is not possible to predict supplies for 2035, provided the planning period available and the known demand from the project, energy providers have sufficient information to include the HST (High-Speed Train) in their demand forecasts." The Final also shows a prediction that the Fresno to Bakersfield Section would require approximately 78 MW of additional peak capacity by 2020. PG&E recommends that the Authority consult with PG&E on determining the forecasted electricity demand of the Fresno to Bakersfield Section.

Construction

BO135-12

The Public Utilities and Energy Section did not provide specifics of

Submission BO135 (Dale Overbay, Pacific Gas & Electric Company, October 12, 2011) - Continued

BO135-12

planned and accidental disruptions to PG&E utility services due to construction impacts. The Final EIR/EIS should include specific plans to alleviate these disruptions and that the Authority would coordinate with PG&E on these plans.
In addition, Table S-3 in the Summary of the Draft EIR/EIS, the document shows no mitigation required for public utilities and energy due to construction impacts or project impacts. PG&E recommends that this should be reevaluated and that the Authority should correspond with PG&E concerning potential mitigation measures prior to the finalization of the EIR/EIS.

BO135-13

Growth and Development
The Regional Growth Section (Section 3.18) asserts that "Because existing urban spheres of influence could accommodate the growth, physical extension of utilities such as electrical transmission, natural gas, water supply, and wastewater lines would not be any greater than already planned under the current city and county policies." However, PG&E is concerned that the project may require further expansion of electrical transmission and gas facilities beyond what is presently anticipated to accommodate expected growth. The proposed project would have potential direct and indirect consequence on growth and development, which includes local and regional populations to be redistributed and expected growth trends to alter, thus changing the electricity demand profile. Expansion of distribution and transmission lines and related facilities is a necessary consequence of this growth and development. In addition to adding new distribution feeders, the range of electric system improvements needed to accommodate growth may include upgrading existing substation and transmission line equipment, expanding existing substations to their ultimate build-out capacity, and building new substations and interconnecting transmission lines. Comparable upgrades or additions needed to accommodate additional load on the gas system could include facilities such as regulator stations, odorizor stations, valve lots, and distribution and transmission lines.

Cumulative Impacts

BO135-14

The Cumulative Impacts Section (Section 3.19) did not identify and evaluate all PG&E facilities that would be impacted by the proposed project in order to determine that there would not be "…cumulatively considerable under CEQA." PG&E requests that the Final EIR/EIS include adequate evaluation of cumulative impacts to utility systems including impacts to the utility facilities needed to serve the proposed project and any potential environmental issues associated with extending utility service to the proposed project. This will assure the project's compliance with CEQA and G.O. 131-D and reduce potential delays to the project schedule.

Utility Locations

BO135-15

Appendix 3.1-A (Project Footprint) of Volume II does not include all PG&E facilities within or adjacent to the project area. The Authority should coordinate early with PG&E on identifying and evaluating these locations and designating them in the mappings prior to the finalization of the EIR/EIS.

Substation Impacts

The Public Utilities and Energy Section does not show any level of impact to PG&E substations. The Final EIR/EIS should include the identification and locations of the Preferred Alternative impacts to PG&E substations and the work required. This would include the proposed

BO135-15

connections from the proposed project to PG&E substations. The Authority should coordinate early with PG&E on identifying and evaluating the potential substation impacts. The Final EIR/EIS should also include in the Public Utilities and Energy Section the following language found in the Draft Environmental Impact Report/Environmental Impact Statement for the California High-Speed Train Project, Fresno to Bakersfield Section:

"Where the alignments would conflict with existing electrical substations, there is a potential for a …and a significant impact under CEQA. Where possible, portions of HST (High-Speed Train) alignment would be redesigned to avoid impacts; this would reduce the impact…less than significant under CEQA. If redesign is not feasible, the impact would remain…significant under CEQA."

Corcoran Substation

BO135-16

The Corcoran Substation located in the City of Corcoran, would be potentially impacted by the proposed project. The substation and proposed work should be identified and the impact evaluated in the Final EIR/EIS.

The Corcoran Substation is comprised of: one 115/70 kV 90 MVA transformer, two 115/12 kV 30 MVA transformers, three 115 kV lines, two 70 kV lines, and six 12kV feeders. The proposed Corcoran Bypass Subsection, Alignment C-2 of the Roadway and Grade Separation Plans, Volume III (page 97, Part 1 of 2) is not recommended for the following reasons:

• This alignment would block the entrances to the 115/70kV single-phase mobile transformers as well as the entrances to our three-phase 115-12kV mobiles transformers as well as to three-phase 115-12kV mobiles transformer, and equipment in general. The mobile transformers are used in case of transformer failure or planned maintenance.

• The "Limit of Ditch" and the "Limit of Ditch toe of Fill" would need to come into the substation, triggering the need to relocate 115kV transfer bus. There would not be enough space for the bus to be modified or relocated.

• The adjacent empty space, fenced, west of the substation is owned by PG&E, but in 2012 PG&E plans to install one new 115/70 kV bank and build a new 70kV bus and terminate the two 70kV lines in a double bus configuration. This station would be built out with no room for future expansion. Any interconnection to the 115kV bus would trigger a costly bus conversion and PG&E would not have land available for this conversion.

PG&E recommends that the Corcoran Highway Overpass move further south to avoid blocking the access to the Corcoran Substation.

Conclusion

PG&E is committed to working with the California High-Speed Rail Authority on the proposed rail project from Fresno to Bakersfield while maintaining its commitment to provide timely, reliable and cost effective gas and electric service to its PG&E customers. Please contact me by telephoning (559) 263-7372 or emailing me at DWO4@PGE.COM if you have any questions concerning our comments. We would also appreciate being copied on future correspondence regarding this subject as this project develops.

Submission BO135 (Dale Overbay, Pacific Gas & Electric Company, October 12, 2011) - Continued

Sincerely,

Dale Overbay, PLS
Land Agent

EIR/EIS Comment : Yes

Response to Submission BO135 (Dale Overbay, Pacific Gas & Electric Company, October 12, 2011)

BO135-1

Refer to Standard Response FB-Response-PU&E-01.

The project team has been coordinating with and will continue to actively coordinate with PG&E during the early design phases of the project to identify, describe, and evaluate the HST's potential impact on existing electrical and gas infrastructure. As appropriate and commensurate to the early stage of engineering design, modifications have been made to the Revised DEIR/Supplemental DEIS to reflect the comments provided (see Section 3.6.2, Laws, Regulations, and Orders). Where the project would require modification of any electrical substation or electrical transmission, power, or distribution line, such modifications would be conducted in compliance with the California Public Utilities Commission's General Order 131-D. The Authority will assist utility providers in applying for a permit from the CPUC under CPUC General Order 131-D, including the need for any additional environmental review necessary for transmission line relocation or extension, or other new or modified facilities, and any localized increase in electrical loads identified as part of the more detailed design.

BO135-2

Refer to Standard Response FB-Response-PU&E-03.

Section 3.7.5 of the Revised DEIR/Supplemental DEIS presents the impacts ton biological resources from construction and operation of the proposed HSTproject. The Authority is actively assimilating information on existing andplanned utilities. The design presented in the Revised DEIR/Supplemental DEIS is based on preliminary engineering. The Authority will coordinate with utility owners to refinethis information, identifying and evaluating all known facilities within thefootprint during future design phases. The Revised DEIR/Supplemental DEIS further states that ifutilities cannot be relocated or modified within the construction footprintdefined in Chapter 2, Alternatives, a supplemental environmental analysis wouldbe conducted, if necessary.

BO135-3

The survey and evaluation of built-environment resources within the Area of Potential Effect (APE) for the Fresno to Bakersfield Section included evaluation of three Pacific Gas and Electric Company (PG&E) substations, one each in Fresno, Corcoran, and Wasco. The evaluations concluded that none of these substations meets the criteria for

BO135-3

listing in the National Register of Historic Places (NRHP) (Section 106 of the National Historic Preservation Act [NHPA]) or the California Register of Historical Resources (CRHR) (for the purposes of the California Environmental Quality Act [CEQA]) (see the Historic Architectural Survey Report [HASR] (Authority and FRA 2011b). Because none of these substations meets the criteria for listing, no further evaluation or mitigation is required under Section 106 of the NHPA or CEQA as it pertains to historical resources.

BO135-4

Refer to Standard Response FB-Response-PU&E-01.

Visual simulations of the PG&E facilities required for the proposed project (e.g., transmission line upgrades, substations) were not prepared for the Revised DEIS/Supplemental DEIS. As stated in Section 2.2.6, Traction Power Distribution, of the Revised DEIS/Supplemental DEIS, when electrification of the system is required, PG&E will design and implement changes to its transmission lines, including completion of environmental review and clearance of the reconstruction of the transmission lines.

BO135-5

The project team has been and will continue to actively coordinate with PG&E during the early design phases of the project to identify, describe, and evaluate the HST's potential impact on existing electrical and gas infrastructure. As appropriate and commensurate to the early stage of engineering design, modifications have been made to the Revised DEIR/Supplemental DEIS to reflect the comments provided (see Section 3.6.2, Laws, Regulations, and Orders). Where the project would require modification of any electrical substation or electrical transmission, power, or distribution line, such modifications would be conducted in compliance with the California Public Utilities Commission's General Order 131-D. Also see Master Response FB-Response-PU&E-01: Analysis of Traction Power Stations and Project Driven Transmission Line Upgrades.

Section 3.7.5 of the Revised DEIR/Supplemental DEIS presents the impacts on biological resources from construction and operation of the proposed HST project. The Authority is actively assimilating information on existing and planned utilities. The design presented in the Revised DEIR/Supplemental DEIS is preliminary (15%–30% complete). The Authority will coordinate with utility owners to refine this information, identifying and

Response to Submission BO135 (Dale Overbay, Pacific Gas & Electric Company, October 12, 2011) - Continued

BO135-5

evaluating all known facilities within the footprint during future design phases. The Revised DEIR/Supplemental DEIS further states that if utilities cannot be relocated or modified within the construction footprint defined in Chapter 2, Alternatives, a supplemental environmental analysis would be conducted, if necessary. Also see Master Response FB–Response-PU&E-03: Utility Coordination for Final Design.

BO135-6

Refer to Standard Response FB-Response-PU&E-03.

The project team has been coordinating with and will continue to actively coordinate with PG&Eduring the early design phases of the project to identify, describe, andevaluate the HST's potential impact on existing electrical and gasinfrastructure.

BO135-7

Refer to Standard Response FB-Response-PU&E-03.

BO135-8

As design progresses further, the Authority will pursue necessary permits and approvals from other agencies, such as the U.S. Army Corps of Engineers (Section 404 water quality permit) and the California Department of Fish and Wildlife (Section 1600 et seq. streambed alteration agreement and Section 2081 incidental take permit). Permit applications review will be coordinated with PG&E if it would affect utilities owned by PG&E.

BO135-9

Refer to Standard Response FB-Response-PU&E-03.

BO135-10

The Authority is coordinating with PG&E and will continue to work with PG&E on right-of-way acquisition, including negotiation of rights and terms for utility right-of-way.

BO135-11

Refer to Standard Response FB-Response-PU&E-01.

BO135-11

The project team has been coordinating and will continue to actively coordinate with PG&E during the early design phases of the project to identify, describe, and evaluate the HST's potential impact on existing electrical and gas infrastructure. As appropriate and commensurate to the early stage of engineering design, modifications have been made to the Revised DEIR/Supplemental DEIS to reflect the comments provided (see Section 3.6.2, Laws, Regulations, and Orders). Where the project would require modification of any electrical substation or electrical transmission, power, or distribution line, such modifications would be conducted in compliance with the California Public Utilities Commission's General Order 131-D. The Authority will assist utility providers in applying for a permit from the CPUC under CPUC General Order 131-D, including the need for any additional environmental review necessary for transmission line relocation or extension, or other new or modified facilities, and any localized increase in electrical loads identified as part of the more detailed design.

BO135-12

Refer to Standard Response FB-Response-PU&E-03.

BO135-13

Refer to Standard Response FB-Response-PU&E-02.

The project would be served by PG&E, utilizing existing energy capacity. Power for the HST project will come from the electrical grid. As a result, the specific location of the generation facilities that will provide this power cannot be known. Similarly, it is not possible to know the location or characteristics of future generation plants, solar energy facilities, or other sources of power supplied to the grid. Therefore, these cannot be analyzed as part of the Fresno to Bakersfield Section EIR/EIS without resorting to unreasonable levels of speculation. Any future power generation facilities needed by PG&E to supply the power commitment will be analyzed separately for potential environmental impacts.

BO135-14

The impacts of the HST project on PG&E facilities, including the need for additional

Response to Submission BO135 (Dale Overbay, Pacific Gas & Electric Company, October 12, 2011) - Continued

BO135-14

facilities to serve the project, are direct impacts and are analyzed in Section 3.6, Public Utilities and Energy, in the Revised DEIR/Supplemental DEIS. Proposed modifications to electrical facilities, including transmission line upgrades and additions, are discussed for each HST alternative in Chapter 2, Alternatives, of the Revised DEIR/Supplemental DEIS, which describes the project elements. The cumulative analysis provided in Section 3.19, Cumulative Impacts, evaluates the potential impacts of the HST project in combination with other past, present, and reasonably foreseeable projects. These projects are listed in Appendix 3.19-A and Appendix 3.19-B.

Cumulative impacts to utilities are described in Section 3.19, Cumulative Impacts, subsection Utilities. The designs presented in the Revised DEIR/Supplemental DEIS are preliminary (15% to 30% complete) and as the designs are refined, the Authority will continue assimilating information on existing and planned utilities. The Authority will coordinate with utility owners to refine this information, identifying and evaluating all known facilities within the footprint during future design phases. The Authority will also be meeting with local districts, municipalities, and other entities (e.g., private companies) to develop Memoranda of Agreement that will define terms and conditions to resolve utility conflicts, including funding by the Authority to reimburse costs incurred as a result of the HST project. As necessary, the Authority will coordinate with the appropriate state agencies to facilitate oversight of these activities.

BO135-15

Refer to Standard Response FB-Response-PU&E-01, FB-Response-PU&E-03.

BO135-16

Refer to Standard Response FB-Response-PU&E-03.

Submission BO136 (Patricia Mora, Pattys Beauty Place, October 3, 2011)

	Fresno - Bakersfield (May 2011 – July 2012) - RECORD #387 DETAIL	
	Status :	Action Pending
	Record Date :	10/3/2011
	Response Requested :	
	Affiliation Type :	Businesses and Organizations
	Interest As :	Businesses And Organizations
	Submission Date :	10/3/2011
	Submission Method :	Website
	First Name :	Patricia
	Last Name :	Mora
	Professional Title :	
	Business/Organization :	Pattys Beauty Place
	Address :	
	Apt./Suite No. :	
	City :	Bakersfield
	State :	CA
	Zip Code :	93305
	Telephone :	
	Email :	a.castro7592@yahoo.com
	Cell Phone :	
	EIR/EIS Comment :	Yes
BO136-1	**Stakeholder Comments/Issues :**	We are 9 workers, we work at a shop in the Mercado Latino. We are worried for our jobs, if the Mercado Latino gets tiered down we and other workers will loose our jobs.
BO136-2		We would like to know if have Superior chances in working in this project.

Response to Submission BO136 (Patricia Mora, Pattys Beauty Place, October 3, 2011)

BO136-1

Refer to Standard Response FB-Response-GENERAL-18.

For information on local job training programs and contracting opportunities, please visit the California High-Speed Rail Authority's website.

BO136-2

Refer to Standard Response FB-Response-GENERAL-18.

Submission BO137 (Michael Nordstrom, Peoples Ditch Co., et al. (Atty. for), Law Offices of Michael N. Nordstrom, September 20, 2011)

09-20-11A11:08 RCVD

LAW OFFICES OF
MICHAEL N. NORDSTROM

TELEPHONE
(559) 584-3131
TELECOPIER
(559) 584-3132

222 W. LACEY BLVD.
HANFORD, CALIFORNIA
93230

September 14, 2011

CALIFORNIA HIGH SPEED RAIL AUTHORITY
Fresno to Bakersfield Draft EIR/EIS Comment
770 L Street, Suite 800
Sacramento, CA 95814-3359

RE: Extension of Draft EIR/EIS Comment Period – Fresno to Bakersfield
HSR SCH #2009091126

Members of the Board:

I am writing on behalf of my clients, Peoples Ditch Company, Settlers Ditch Company and Last Chance Water Ditch Company to request a reasonable extension of the October 13, 2011 deadline to submit comments on the draft Environmental Impact Report/Environmental Impact Statement on the proposed California High Speed Train, specifically the Fresno to Bakersfield section. Given the nearly 17,000 pages of documents, it is unreasonable to expect any meaningful review of the documents by the deadline date and an extension of at least six months is clearly in order.

As you are aware, Section 15203 of the CEQA Guidelines requires that "The lead agency shall provide adequate time for other public agencies and members of the public to review and comment on the draft EIR or Negative Declaration that is prepared." The very limited time your Authority has granted for public review is not "adequate time" by any stretch of the imagination. To require one to read and digest several hundred pages a day and thereafter prepare comments on the content, or lack of content, not only violates the guidelines, but flies in the face of the spirit for which CEQA was created. While we appreciate the Authority is under funding time constraints in order to preserve the Federal appropriations, the public's due process and procedural protections should not be sacrificed. We respectfully request a six month extension on the review.

BO137-1

Very truly yours,

LAW OFFICES OF MICHAEL N. NORDSTROM

MICHAEL N. NORDSTROM

Cc: Clients

Response to Submission BO137 (Michael Nordstrom, Peoples Ditch Co., et al. (Atty. for), Law Offices of Michael N. Nordstrom, September 20, 2011)

BO137-1

Refer to Standard Response FB-Response-GENERAL-07.

Submission BO138 (Dale Kuntz, Peoples Ditch Company, October 12, 2011)

Peoples Ditch Company
ESTABLISHED 1873
POST OFFICE BOX 1261
HANFORD, CALIFORNIA 93232
TELEPHONE (559) 584-2341
FAX (559) 584-0480

RECEIVED
10-12-11P02:13 RCVD

September 12, 2011

Subject: California High Speed Rail

To Whom it may concern:

BO138-1

Looking at page 3.8-22 of the EIR/EIS I didn't notice any mention of the two canal systems that I manage. I manage two or maybe even three canals that could be impacted in perpetuity by this project. They are located in Township 17 S. Range 22 E section 33 and Township 18 S. Range 22 S. sections 9 and 33 and maybe even section 21.

This EIR seems to be inadequate as far as explaining some of my concerns:

1) How are we to be compensated for the additional labor and equipment that it will take on an annual basis to operate our canal around your track and fence?

2) Will the canals be piped far enough upstream and downstream of the track to a main road so that most of the maintenance equipment will not have to travel that section ?

3) Since these canals were here first in time, who is going to be held responsible for any damages that may occur to the track system as a result of the operation of our canal system?

Sincerely,

Dale Kuntz - Manager

Response to Submission BO138 (Dale Kuntz, Peoples Ditch Company, October 12, 2011)

BO138-1

Refer to Standard Response FB-Response-HWR-03.

Submission BO139 (Bruce R. Schweitzer, PFFJ Farms (Hormel Foods Corporation), October 13, 2011)

Bruce R. Schweitzer
Vice President of Operations
Refrigerated Foods

Hormel Foods Corporation
1 Hormel Place
Austin MN 55912-3680
Phone 507 437 5520
Fax 507 437 5167
E-Mail: brschweitzer@hormel.com

October 11, 2011

Roelof van Ark
Chief Executive Officer
California High-Speed Rail Authority
770 L Street, Suite 800
Sacramento CA 95814

Re: Draft EIR/EIS Comment

Dear Mr. van Ark:

BO139-1

I write on behalf of PFFJ, LLC ("PFFJ"), a large hog production agribusiness and wholly-owned subsidiary of Hormel Foods Corporation, regarding the proposed high-speed rail line between Fresno and Bakersfield. As proposed, this project will greatly impact the continued viability of our business.

PFFJ owns 420 acres, including farm buildings, offices and a feed mill near Corcoran in Tulare County, California. PFFJ uses this property to raise approximately 150,000 market hogs per year, which are sold to the Farmer John pork processing plant in Los Angeles (also a Hormel Foods company). PFFJ also produces about 115,000 tons of feed per year on the property to supply its internal needs, as well as commercial feed sales. PFFJ employs 43 full-time staff on the property in the areas of hog production, feed milling, maintenance and administration, with an annual payroll of approximately $1.5M.

The California High-Speed Rail Authority (the "Authority") has indicated plans to build an overpass on our property at the intersection of Avenue 120 and Highway 43 to accommodate the proposed high-speed rail line. (See Exhibits A and B). This overpass would take many crop acres, presently used for effluent application for our hog production. Our farm disposes of hog effluent by channeling the effluent from our hog houses into lagoons. From the lagoons, the effluent is channeled to our fields for application. The State of California sets strict regulations for the amount of effluent that can be disposed of over a given area of land. We will need to replace the lost acres taken by the high-speed rail overpass in order to stay in compliance with these regulations.

BO139-1

Over the years, we have noticed a growing shortage of land available for effluent application, due to the conversion of such land to fruit production and conservation. Presently, there is no farmland contiguous to our operation available for purchase. Therefore, we would likely be forced to purchase land many miles away. Conveyance required to transfer effluent to the new land would come at considerable cost, assuming it is even feasible. A recent investigation to secure additional (contracted) land for effluent application bears a potential cost to our business of $500,000 for a 2-3 mile effluent pipeline, assuming we are able to secure all of the necessary permits and easements required to build such a line.

The Authority has also indicated plans to place the high-speed rail line between our feed mill and the present BNSF line near Angiola. (See Exhibits A and C). We use our feed mill to store grain and manufacture complete feed coming to and from our farm by rail on the BNSF track. Under the proposed plan, the high-speed rail line would block our feed mill's access to the BNSF track with no extra space for a new rail line to our feed mill. The Authority also plans to close Angiola Road, thereby eliminating access to the feed mill entirely. Without this crucial rail and road access, our feed mill is useless.

The Authority's plans would require PFFJ to buy land and build a new feed mill at a cost of at least $7M. The new feed mill would need to be on the rail line and there is no guarantee that BNSF would allow the construction of a new single car receiving facility on their rail line to accommodate our needs. Assuming the new feed mill can be built, it likely would be further away than our current feed mill, which would impact our costs going forward for incoming ingredients and the transportation of finished product.

As you can see, the proposed path for the high-speed rail line will cause several major financial and regulatory problems for our company, to the point of jeopardizing the overall feasibility of our business. We respectfully request that the Authority consider alternative plans which do not directly threaten our continued operation.

Sincerely,

Bruce R. Schweitzer
Vice President of Operations-Refrigerated Foods
President, PFFJ Farms

Enclosures

Submission BO139 (Bruce R. Schweitzer, PFFJ Farms (Hormel Foods Corporation), October 13, 2011) - Continued

EXHIBIT A

CALIFORNIA HIGH-SPEED TRAIN PROJECT EIR/EIS
FRESNO TO BAKERSFIELD SECTION

2.0 ALTERNATIVES

Table 2-A-1
Road Crossings for the BNSF Alternative

No.	Road	City/Community	Existing Conditions Description	Proposed Modification
98	Avenue 120/Hess Avenue	Rural Tulare County	Existing at-grade RR crossing and intersection with SR 43. Hesse Ave extends 10.5 miles east to SR 99. Ave 120 extends 2.5 miles east to Road 16 where it changes to Racine Ave. Racine Ave ends 2 miles farther west at 6th Ave.	East-west Ave 120 is proposed to flare away from the existing road on the west to the north in order to cross over the HST, RR, canal, Rd 36, and SR 43 and then curve south to intersect Ave 120 to the east of SR 43.
99	Avenue 112	Rural Tulare County	Existing at-grade RR crossing and intersection with SR 43. Ave 112 provides access to an agricultural business that has rail access on the west side of the BNSF RR. Ave 112 extends 3 miles west where it intersects Rd 16 and changes to Salem Ave. Ave 112 extends 1 mile to the east until reaching the canal, thereafter following the canal north until it intersects Hesse Ave.	East-west Ave 112 is proposed to flare away north from the existing road on the west to cross over the HST, RR, canal, and SR 43, then curve south to intersect Ave 112 to the east of SR 43.
100	Angiola Drive	Rural Tulare County	No existing RR crossing. Angiola Dr operates as a frontage road for the existing train station, which may be removed or relocated.	Proposed to be closed.
101	Avenue 88	Rural Tulare County	Existing at-grade RR crossing and intersection with SR 43. It is an unpaved local access road for 3.5 miles east until it intersects with Rd 84 and becomes a paved road that extends 4.5 miles east to Rd 120. To the west, Ave 88 is an unpaved local access road that extends due west 1 mile where it then follows the canal southwest.	East-west Ave 88 is proposed to flare away south from the existing road on the west to cross over the HST, RR, and SR 43, then curve north to intersect Ave 88 to the east of SR 43.
102	County Road J22	Rural Tulare County	Existing at-grade RR crossing, 4 miles to the west, County Rd J22 connects to the town of Alpaugh. 7.3 miles to the east County Rd J22 connects to the town of Earlimart and SR 99.	East-west County Rd J22 is proposed to flare to the north on the west side and cross over the HST, RR, and SR 43, then curve south on the east side and intersect the existing County Rd J22.

CALIFORNIA High-Speed Rail Authority
U.S. Department of Transportation Federal Railroad Administration

Page 2A-15

EXHIBIT B

Submission BO139 (Bruce R. Schweitzer, PFFJ Farms (Hormel Foods Corporation), October 13, 2011) - Continued

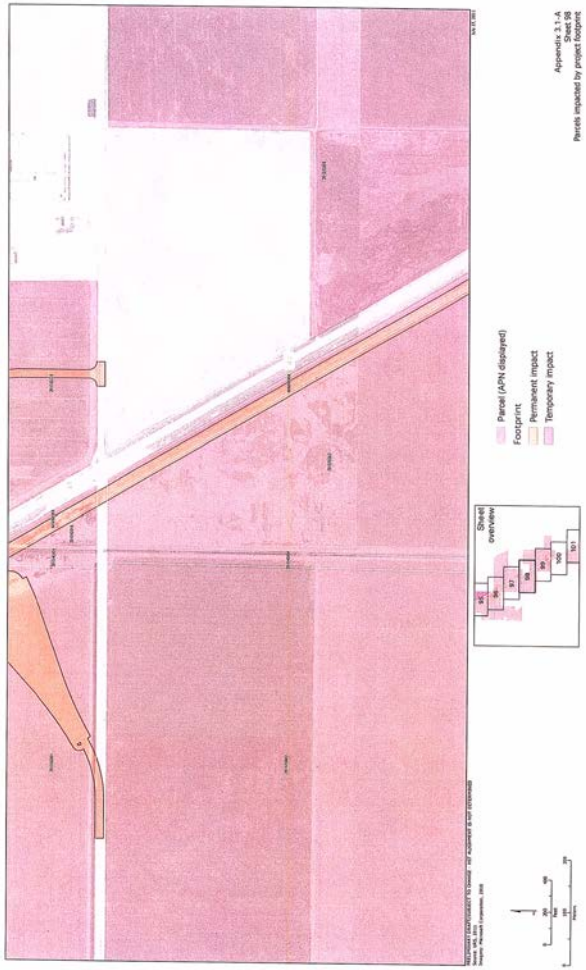

EXHIBIT C

Response to Submission BO139 (Bruce R. Schweitzer, PFFJ Farms (Hormel Foods Corporation), October 13, 2011)

BO139-1

Refer to Standard Response FB-Response-AG-01, FB-Response-AG-02, FB-Response-GENERAL-04.

The Authority will work with the property owner during the appraisal process to ensure the propert owner receives just compensation for project damages. The design and permitting costs of new wastewater disposal fields will be analyzed in the appraisal with consultation from experts in the field and compensation will be estimated accordingly. The appraisal process will also evaluate the loss of access to the feed mill. If access to existing facilities cannot be accommodated by the HST project and BNSF Railway, the Authority will provide compensation for relocation of the feed mill.

Submission BO140 (Jena Price, Planning and Conservation League, September 27, 2011)

PLANNING AND CONSERVATION LEAGUE

September 22, 2011

Tom Umberg, Chair
Board of Directors
California High-Speed Rail Authority
770 L Street, Suite 800
Sacramento, CA 95814

RE: Request for Additional Extension of EIR/EIS Comment Period- Fresno to Bakersfield Section and Merced to Fresno Section

Dear Chairperson Umberg and Board Members:

BO140-1

The Planning and Conservation League request that the Board of Directors of the California High-Speed Rail Authority extend the comment period on the Draft Environmental Impact Report (EIR) and the Draft Environmental Impact Statement (EIS) that the Authority has prepared on the Fresno to Bakersfield and Merced to Fresno section. On August 9, 2011, the Authority released a draft EIR/EIS on the Fresno to Bakersfield and Merced to Fresno alignment and indicated that comments pertaining to that document were to be submitted no later than September 28, 2011. While this was later extended to October 13, 2011, this is still inadequate time to review a project of this magnitude. We request that immediate action be taken to extend the deadline to mid-February, allowing a 6 month comment period. This is the amount of time necessary to thoroughly review thes massive and important documents, which contains over 17,000 pages.

Both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) were put in place to ensure that governmental decisions potentially affecting the environment are made only after the decision makers are fully informed of the potential environmental implications. The current deadline does not facilitate the type of public of public participation and comment that both CEQA and NEPA require. Without sufficient time for community groups to adequately review the Draft EIR/EIS, the Authority will not have the information needed to make sound decisions on the Fresno to Bakersfield and Merced to Fresno sections.

This project deserves a 6 month review period to ensure that all relevant comments are received on the largest infrastructure project to be attempted in recent California history. Your consideration is appreciated.

Sincerely,

Jena Price
Legislative Director
Planning and Conservation League

1107 9th Street, Suite 901, Sacramento, CA 95814 Phone: 916-822-5631 Fax: 916-822-5650
Website: www.pcl.org Email: pclmail@pcl.org

Response to Submission BO140 (Jena Price, Planning and Conservation League, September 27, 2011)

BO140-1

Refer to Standard Response FB-Response-GENERAL-07.

Submission BO141 (Alexander Brown, Presbytery of San Joaquin, October 13, 2011)

Fresno - Bakersfield - RECORD #693 DETAIL

Status :	Action Pending
Record Date :	10/13/2011
Response Requested :	
Stakeholder Type :	Business
Submission Date :	10/13/2011
Submission Method :	Website
First Name :	Alexander
Last Name :	Brown
Professional Title :	General Presbyter and Stated Clerk
Business/Organization :	Presbytery of San Joaquin
Address :	
Apt./Suite No. :	
City :	Bakersfield
State :	CA
Zip Code :	93312
Telephone :	
Email :	executive@sjpresbytery.org
Email Subscription :	Fresno - Bakersfield
Cell Phone :	
Add to Mailing List :	Yes

Stakeholder Comments/Issues :

Kern County Planning and Community Development Department
2700 "M" Street, Suite 100
Bakersfield, CA 93301

September 21, 2011

Reference: GPA #8, Map #102-29; ZCC #38, Map #102-29
PD Plan #27, Map #102-29

To Whom It May Concern,

I write on behalf of the Bakersfield Korean Presbyterian Church located at 1601 Art Street in Bakersfield, and on behalf of the Presbytery of San Joaquin. The Presbytery is the supervising body for the Bakersfield Korean Presbyterian Church and is ultimately responsible for all real property controlled by our member congregations.

BO141-1

It has come to our attention that the rail line for the California High Speed Rail Project will cut directly through the location of the building of the Korean Church. Losing this facility will harm this congregation in many ways. The process of locating new property and building or renovating a new worship facility is a tremendous hardship for a congregation. They have only recently finished their work in their current facility. While we know that the church will be paid for the property we are not at all sure that the payment will be enough to relocate.

BO141-2

In addition to the difficulty of relocating their facility such a forced move would be extremely disruptive to their church community. Most of the members of the church live close by the current location. For the church meeting place to be moved to another place in Bakersfield would result in the loss of members who would not want to drive a distance to worship and meetings.

I am aware that there are other routes being considered by the High Speed Rail Commission. I urge you to look upon the existing businesses and churches, such as Bakersfield Korean Presbyterian Church, and see the extreme difficulty that would be forced upon them by this route for the High Speed Rail line. Please choose another route.

Blessings,

Rev. Alexander Brown, General Presbyter and Stated Clerk
Presbytery of San Joaquin
executive@sjpresbytery.org

EIR/EIS Comment : Yes

Response to Submission BO141 (Alexander Brown, Presbytery of San Joaquin, October 13, 2011)

BO141-1

Refer to Standard Response FB-Response-SO-01.

Please see Section 5.2.5 in the Community Impact Assessment Technical Report for an explanation of the impacts on the Korean Presbyterian Church, and refer to the Revised DEIR/Supplemental DEIS, Volume I, Section 3.12.7, Mitigation Measure SO-4, for information related to the relocation of important community facilities (Authority and FRA 2012g).

BO141-2

Refer to Standard Response FB-Response-SO-01.

Please see Section 5.2.5 in the Community Impact Assessment Technical Report for an explanation of the impacts on the Korean Presbyterian Church, and refer to the Revised DEIR/Supplemental DEIS, Volume I, Section 3.12.7, Mitigation Measure SO-4, for information related to the relocation of important community facilities (Authority and FRA 2012g).

Submission BO142 (Steve Manaro, Preserve Our Heritage, September 20, 2011)

Preserve Our Heritage
P.O. Box 501
Chowchilla, CA 93610

09-20-11A11:09 RCVD

September 14, 2011

Board of Directors
California High Speed Rail Authority
770 L Street, Suite 800
Sacramento, CA 95814

Re: Request for Extension of EIR/EIS Comment Period - Fresno to Bakersfield Section

Dear Chairman and Members of the Board:

BO142-1 Preserve Our Heritage supports the request of J.G. Boswell Company, dated September 8, 2011, for an extension of time to review the EIR/EIS documents of at least 180 days.

Signed:

Steve Manaro
President
Preserve Our Heritage

9-14-11
Date

Response to Submission BO142 (Steve Manaro, Preserve Our Heritage, September 20, 2011)

BO142-1

Refer to Standard Response FB-Response-GENERAL-07.

Submission BO143 (Matt Hanson, Professional Engineers in California Government (PECG), October 6, 2011)

PROFESSIONAL ENGINEERS
IN CALIFORNIA GOVERNMENT

October 5, 2011

Roelof van Ark
Chief Executive Officer
California High-Speed Rail Authority
Fresno to Bakersfield Draft EIR/EIS Comments
770 L Street, Suite 800
Sacramento, CA 95814

Dear Mr. van Ark:

The Professional Engineers in California Government (PECG) respectfully submit the following for inclusion in the public comments on the Fresno to Bakersfield Draft EIR/EIS for the California High-Speed Rail System.

BO143-1

The Fresno to Bakersfield Draft EIR/EIS contains references to 43 potential interactions with Caltrans state highway facilities (Table 2-14, Page 2-74). This includes the potential reconfiguration of State Route 46 and State Route 137. PECG strongly urges the Authority to work together with Caltrans to ensure that the department, not a private contractor, performs the engineering and related work on the state highway system. Caltrans has the skilled staff of engineers and related professionals to conduct the design and construction inspection for this critical piece of the high-speed rail work.

Caltrans should also take responsibility for all design and inspection work conducted on interactions with the state highway system. These include grade separations whenever the train goes under or over a state highway. Since these are components of the state highway system under Caltrans' authority and eventual responsibility, the department should conduct the design and inspection to ensure a safe and effective product. This should not be left in the hands of contractors inspecting each other's work.

Caltrans could also perform the construction inspection for relocation of other streets and roads involved in this project enabling the Authority to deliver the project in a more cost-effective manner. The 2010-2011 state budget shows the Authority spends $426,000 per outsourced engineer per year. A Caltrans engineer cost just $113,000 per year. When working on such a tight budget with plenty of critical eyes watching, we encourage the Authority to make every effort to save money and increase public oversight.

HEADQUARTERS: 455 Capitol Mall, Suite 501, Sacramento, CA 95814 • (916) 446-0400
LOS ANGELES: 130 N. Brand Boulevard, Suite 301, Glendale, CA 91203 • (818) 500-9941
SAN FRANCISCO: 1 Sutter Street, Suite 800, San Francisco, CA 94104 • (415) 861-5720
TELEFAX: Headquarters (916) 446-0489; Los Angeles (818) 247-2348; San Francisco (415) 861-5360

We encourage you to take these comments under consideration as you move toward a final EIR/EIS for the Fresno to Bakersfield section. For additional information, please contact Ryan Endean in our Sacramento office at (916) 446-0400 or rendean@pecg.org.

Sincerely,

Matt Hanson

Matt Hanson
PECG President

ABOUT PECG
PECG represents 13,000 state-employed engineers and related professionals responsible for designing and inspecting California's infrastructure, improving air and water quality, and developing clean energy and green technology.

HEADQUARTERS: 455 Capitol Mall, Suite 501, Sacramento, CA 95814 • (916) 446-0400
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SAN FRANCISCO: 1 Sutter Street, Suite 800, San Francisco, CA 94104 • (415) 861-5720
TELEFAX: Headquarters (916) 446-0489; Los Angeles (818) 247-2348; San Francisco (415) 861-5360

Response to Submission BO143 (Matt Hanson, Professional Engineers in California Government (PECG), October 6, 2011)

BO143-1

The Authority and FRA are committed to working with local, regional, and federal agencies to ensure consensus as the project progresses.