



**NEW HARMONY AFFORDABLE APARTMENT
COMMUNITY PROJECT**

**S.W. CORNER OF COWELL BOULEVARD
AND DRUMMOND AVENUE, DAVIS**

**FINAL
ENVIRONMENTAL IMPACT REPORT**

**Community Development Department
City of Davis**

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TABLE OF CONTENTS

| | | |
|-----|--|----|
| 1.0 | INTRODUCTION | 1 |
| 1.1 | Background | 1 |
| 1.2 | Summary Of Text Changes | 2 |
| 1.3 | List Of Commenters | 2 |
| 1.4 | Mitigation Monitoring Plan..... | 2 |
| 2.0 | REVISIONS TO DEIR TEXT..... | 3 |
| 2.1 | Introduction | 3 |
| 2.2 | Summary Of Impacts/MitigationS | 3 |
| 2.3 | Text Changes..... | 9 |
| 3.0 | LIST OF COMMENTERS | 19 |
| 4.0 | COMMENTS AND RESPONSES..... | 20 |
| 4.1 | Master Response To Comments..... | 20 |
| 4.2 | Responses To Comments | 28 |
| | Commenter 1 – Yolo Solano Air Quality Management District | 29 |
| | Commenter 2 – Department of Toxic Substances Control..... | 32 |
| | Commenter 3 – Planning Commission | 34 |
| | Commenter 4 – Natural Resources Commission..... | 41 |
| | Commenter 5 – Kris Kordana, Planning Commissioner | 45 |
| | Commenter 6 – Charles Ehrlich, Natural Resources Commissioner..... | 49 |
| | Commenter 7 – Mark Lubell, Natural Resources Commissioner..... | 53 |
| | Commenter 8 – Sacramento Mutual Housing Association..... | 55 |
| | Commenter 9 – Sacramento Housing Alliance..... | 64 |
| | Commenter 10 – Tori Bovard..... | 67 |
| | Commenter 11 – Dan Brugger..... | 69 |
| | Commenter 12 – Sandra Wells | 71 |
| | Commenter 13 – Cathy & Christian Renaudin..... | 73 |
| | Commenter 14 – Richard Seyman | 74 |
| | Commenter 15 – Legal Services of Northern California | 79 |
| | Commenter 16 – Sierra Research | 81 |
| 5.0 | MITIGATION MONITORING PLAN | 86 |
| 5.1 | Introduction | 86 |
| 5.2 | Compliance Checklist..... | 86 |
| 6.0 | APPENDIX..... | 95 |
| 6.1 | Studies and attachments provided by Commenter 8, SMHA/YMHA. | 95 |
| 6.2 | Article Summaries and Abstracts from “Moving Forward” Conference 2007 provided by Commenter 11, Dan Brugger. | 95 |

SECTION 1

1.0 INTRODUCTION

This Final Environmental Impact Report (FEIR) for the New Harmony Affordable Apartment Community Project consists of the Draft EIR (DEIR) previously prepared and the comments on the DEIR, responses to those comment, changes and additions to text, the Mitigation Monitoring Plan, and appendices, which are included in this document. Comments on the DEIR were received from the public, the Planning Commission, and the Natural Resources Commission during the public review period for the New Harmony Draft EIR. This Final EIR has been prepared by the City of Davis in accordance with the California Environmental Quality Act (CEQA).

1.1 BACKGROUND

In August 2008, an Initial Environmental Study (Initial Study) was prepared for the 69-unit New Harmony Apartment project to analyze the potential project impacts. A Notice of Intent to Adopt a Negative Declaration was posted at the County Clerk's Office, published in the local paper, and mailed to property owners and residents within 1,000 feet of the project site, interested members of the public, and relevant agencies. During the 20-day public review period, no comments were received on the Initial Study. Subsequent comments were received from the Yolo Solano Air Quality Management District (YSAQMD).

A public hearing to review the project and the Initial Study was held by the City of Davis Planning Commission on September 10, 2008. The Davis City Council considered the project at a public hearing on October 7, 2008. During the hearings, concerns about the potential adverse health impacts were raised. The City Council continued the item and on November 5, 2008 determined that the project required preparation of an Environmental Impact Report (EIR) which should focus on the air quality health and noise impacts due to the project's proximity to Interstate 80.

The DEIR was prepared and released in December 2008 for a 45-day public comment period in accordance with CEQA Guidelines, §15105(a). The public review period began on December 23, 2008 and ended on February 6, 2009. Notice was provided to owners and tenants within 1,000 feet of the project site and to other interested members of the public. Notice was posted at the County Clerk Recorder's Office and published in the Davis Enterprise. Copies of the DEIR were provided to the State Clearinghouse and to applicable state and local agencies and made available at the City Offices and on the city website.

Public meetings to receive comments on the DEIR were held by the Planning Commission on January 14, 2009 and by the Natural Resources Commission on January 26, 2009. A total of 16 written comments were received during the public review period and are addressed in this FEIR. In addition, oral comments made by the Planning Commission, Natural Resources Commission, and members of the public during the meetings on the DEIR are summarized and addressed in this FEIR.

1.2 SUMMARY OF TEXT CHANGES

Section 2.0 (Revisions to DEIR Text) identifies all changes to the DEIR. These changes are in response to comments on the DEIR made by the public and commissions during the public review period, plus any amplifications or clarifications initiated by the city.

1.3 LIST OF COMMENTERS

Written and oral comments were received during the public comment period on the DEIR. A list of all the comment letters, including the commenter/agency/commission name, as well as the page numbers that the responses to the letter occur in Section 4, are presented in Section 3 (Lists of Commenters). Responses to the oral and written comments received during the public comment period are presented in Section 4 (Comments and Responses).

1.4 MITIGATION MONITORING PLAN

A Mitigation Monitoring Plan (MMP) is required by CEQA to ensure implementation and compliance with the mitigation measures. The MMP lists the identified impacts, mitigation measures, responsible parties, timing, and monitoring action and is included in Section 5.

SECTION 2

2.0 REVISIONS TO DEIR TEXT

2.1 INTRODUCTION

This section presents all the revisions made to the DEIR as a result of staff-initiated changes, or in response to comments received. New text is double-underlined. Deleted text is ~~struck-through~~. Text changes are presented in the page order in which they appear in the DEIR.

2.2 SUMMARY OF IMPACTS/MITIGATIONS

The Mitigation Table 2.1 beginning on page 15 of the DEIR was corrected to add the traffic/circulation mitigation measure identified in the Initial Study to ensure that the developer pay their fair-share of improvements and to address potential safety concerns by adding a left-turn median in the roadway and verifying the sight distance at the driveways, as recommended by the Traffic Study prepared for the project. No concerns about the mitigation measure were raised during review of the Initial Study and the correction does not alter the conclusions or analysis of the EIR.

Table 2.1 of the DEIR is hereby amended according to the revisions below.

Table 2.1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

| <i>Impact</i> | <i>Level of Significance prior to Mitigation</i> | <i>Mitigation Measure</i> | <i>Level of Significance after Mitigation</i> |
|--|--|--|---|
| <p><u>Air Quality:</u> The proposed project would expose potential residents to elevated health risks associated with vehicle emissions from the nearby freeway.</p> | Potentially Significant | <p>Indoor Air Quality Mitigation. In order to minimize air quality impacts and improve indoor air quality, prior to issuance of building permits the applicant shall incorporate the following mitigation measures into the building plans subject to review and approval of the Community Development Director and Building Official:</p> <ul style="list-style-type: none"> a) Provide an enhanced filtration for all dwelling units using passive electrostatic filters and low air velocities or equivalent; b) Use low-VOC materials and carpeting, and no-VOC paints, and carpeting in the dwelling units consistent with Build It Green's Multi-Family Green Building Guidelines. c) <u>Air intake systems for the HVAC shall be placed to minimize roadway air pollution sources.</u> d) <u>Provide and implement a plan for notification to new residents about the potential health impacts from traffic pollution and for the on-going maintenance of the ventilation and filtration system.</u> | Less Than Significant |
| <p><u>Biological:</u> The western burrowing owl (<i>Athene cucularia hypugea</i>) is a Federal Bird of Conservation Concern and state</p> | Potentially Significant | <p>Burrowing Owl Mitigation. Prior to any grading or construction on site, a preconstruction survey for burrowing owls shall be conducted in areas of suitable habitat on and within 250 feet of the project site. A minimum of one survey shall be conducted by a qualified biologist and shall be completed no less than 14 days and no more than 30 days before grading or construction begins. Surveys shall be conducted by walking transects no more than 100 feet apart to achieve 100% visual coverage.</p> | Less Than Significant |

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| <p>Species of Special Concern which is known to exist in the City of Davis and the vicinity. It inhabits vacant parcels and fields similar to the project site. Although none have been observed on the project site, burrowing owls were observed on an adjacent property in 2003. The burrowing owl is an opportunistic species that will occupy existing burrows and could potentially move onto the site to nest prior to construction. Disturbance and impacts to nesting burrowing owls could occur.</p> | | <ul style="list-style-type: none"> a) If no occupied burrows are found during preconstruction surveys, a letter report documenting survey methods and findings should be submitted to the City of Davis for review and approval, and no further mitigation is required for potential impacts to burrowing owls. b) If an occupied burrow is found on or within 250 feet of the project site, potential disturbance shall be minimized by establishing a 160-foot radius buffer during non-breeding season (September 1 through January 31) or a 250 foot radius buffer around the burrow during breeding season (February 1 through August 31) until the breeding season ends, or it is confirmed by a qualified biologist that the burrow is no longer occupied. c) If destruction of an occupied burrow in the project area is unavoidable, passive relocation techniques shall be used during the non-breeding season (September 1 through January 31) to exclude the owls from the burrow in accordance with DFG guidelines (DFG 1995). Following relocation, the project site shall be monitored for five consecutive days to ensure that owls are no longer present. If site grading does not occur within three days after the five consecutive days of monitoring is completed, a biologist shall resurvey the site to determine if owls have reoccupied the site. If owls have reoccupied the site, passive relocation and monitoring procedures must be repeated. A qualified biologist shall be present during initial grading. If owls are present during initial grading, all grading must cease and passive relocation and monitoring procedures shall be repeated. Following completion of the passive relocation, a letter shall be submitted to the City of Davis documenting the methods and results of burrowing owl passive relocation on the project site. If there are no occupied nests or if nesting owls have been relocated as described above, the site may be maintained per City | |
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| | | <p>requirements to prevent occupation by any burrowing owls.</p> <p>d) In addition to passive relocation, DFG guidelines suggest mitigating for the loss of burrowing owl nesting habitat on protected lands at a ratio of 6.5 acres per pair or individual displaced by development. If occupied nests are detected on-site during breeding season, the applicant shall mitigate for the loss of nesting habitat consistent with DFG guidelines.</p> | |
| <p><u>Noise:</u> Noise from construction activities for the proposed project could exceed acceptable noise thresholds for nearby residences.</p> | <p>Potentially Significant</p> | <p>Construction Noise Mitigation. In order to reduce potential impacts from short-term construction noise on nearby residences to a less than significant level for development of the residential parcel, the project contractor shall implement the following measures to be included as notes on grading and building plans. If the residential parcel is developed and occupied before construction on the commercial/office parcel occurs, the following measures shall also be implemented for construction on the commercial/office parcel.</p> <ul style="list-style-type: none"> a) The project contractor shall permit only one piece of earthmoving equipment (including scrapers, haul trucks, rollers, dozers, tractors, front end loaders, hydraulic backhoes or excavators, graders, or similar equipment) to operate at any single time within 100 feet of the Owendale Community property line; b) During all project site excavation and on-site grading, the project contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers and bafflers consistent with manufacturers' standards; c) The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site; d) The construction contractor shall locate equipment staging in areas that will create the greatest possible distance between construction- | <p>Less Than Significant</p> |

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| | | <p>related noise sources and noise-sensitive receptors nearest the project site during all project construction; and</p> <p>e) During all project construction, the construction contractor shall limit all noise-producing construction related activities to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday, and to the hours of 8:00 a.m. and 8:00 p.m. on Saturdays and Sundays. For the office/commercial parcels which are located more than two hundred feet from existing homes, the contractor may request a special use permit to begin work at 6 a.m. on weekdays from June 15th until September 1st.</p> | |
| <p><u>Noise:</u> Noise from the nearby freeway could exceed acceptable indoor and outdoor residential noise levels.</p> | Potentially Significant | <p>Residential Parcel Traffic Noise Mitigation. In order to reduce impacts from traffic noise on the residential parcel to a less than significant level, the applicant shall incorporate the following measures into the building plans for the residential parcel subject to review and approval of the Community Development Director:</p> <p>a) A minimum setback of 260 feet from the centerline of I-80 shall be required of all noise sensitive land uses on the residential parcels;</p> <p>b) An alternate form of ventilation, such as an air conditioning system and trickle ventilation, shall be required for all residential units directly exposed to I-80 to ensure that windows can remain closed for a prolonged period of time;</p> <p>c) Windows with a minimum STC-32 rating shall be required for all residential units with façades directly exposed to I-80; and</p> <p>d) All outdoor active use areas (including playgrounds, patios, and balconies) shall be located on the south side of buildings on the residential parcels.</p> | Less Than Significant |
| <p><u>Noise:</u> Noise from the</p> | Potentially Significant | <p>Office Parcel Traffic Noise Mitigation. In order to reduce impacts from traffic noise on the office parcel to a less than significant level, the applicant</p> | Less Than Significant |

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| <p>nearby freeway could exceed acceptable indoor and outdoor noise levels for office uses.</p> | | <p>shall incorporate the following measures into the building plans for the office parcel subject to review and approval of the Community Development Director:</p> <ul style="list-style-type: none"> a) A berm a minimum of 4 feet in height above the finished pad elevation and extending the length of the property should be constructed on the northern property boundary adjacent to I-80; b) The berm should be landscaped with dense vegetation and tree cover to aid in blocking the line of sight to the traffic noise source; c) A minimum setback of 165 feet from the centerline of I-80 shall be required of all noise sensitive land uses on the office/commercial parcel; d) An alternate form of ventilation, such as an air conditioning system, shall be required for all office/commercial spaces directly exposed to I-80 to ensure that windows can remain closed for a prolonged period of time; and e) Outdoor active use areas shall be placed on the south side of the berm or of the building. | |
| <p><u>Traffic/Circulation: Project could result in circulation and safety impacts.</u></p> | <p><u>Potentially Significant</u></p> | <p><u>Traffic/Circulation Mitigation.</u> <u>In order to reduce potential traffic safety and circulation impacts to a less than significant level, the applicant shall implement the following measures to the satisfaction of City Engineer:</u></p> <ul style="list-style-type: none"> a) <u>Construct half roadway improvements along project frontage on Cowell Boulevard and Drummond Avenue and provide a two-way left turn lane to facilitate access into and out of the project site; and</u> b) <u>Verify and maintain appropriate sight distances at the driveway locations.</u> | <p><u>Less Than Significant</u></p> |

2.3 TEXT CHANGES

Text changes to the following sections have been made in response to comments received and as staff-initiated changes. Note that new text is double-underlined and deleted text is ~~struck-through~~. The sections of the DEIR and the affected pages, where relevant, are cited.

The changes consist of corrections or additional information and discussion for clarification purposes. However, the changes do not alter the basic analysis or conclusions of the EIR.

CHANGES TO SECTION 4.2.3 REGULATORY CONTEXT

This section of the DEIR includes the following changes.

DEIR Page 36.

The DEIR, page 36, under the heading **Federal Regulations** is hereby amended as follows:

The Clean Air Plan is expected to be ~~finalized by the end of 2008~~ adopted in 2009.

CHANGES TO SECTION 4.2.4 IMPACTS AND MITIGATION MEASURES

This section of the DEIR includes the following changes.

DEIR Page 43.

The DEIR page 43 under the heading **Impacts to Climate Change** is hereby amended as follows:

Impacts to Climate Change

The project produces greenhouse gases that can impact the climate and contribute to global warming. Impacts to the project by climate change would not be specific to the project, but would be expected to impact the region as a whole. As of yet there are no established measures or requirements for individual projects to address the hazards of climate change that could include changes in water supply and quality, extreme weather events, changes in rainfall patterns.

Greenhouse gas emissions from the project are produced from the materials and construction of the project, energy usage for normal activities, and vehicle emissions. However, information and thresholds are not yet available to determine the incremental impact of a project. The City is in the process of determining baseline information and formulating policies to address the City's contribution to climate change. The project is consistent with General Plan policies for land use, circulation, air quality that seeks to coordinate land use

and transportation planning and encourage alternatives automobile transportation and a reduction in vehicle usage. The project is a high density infill development. It minimizes vehicle trips by providing good access to bicycle paths and transit, a location convenient to schools and services, and low-income housing directed towards people already working or living in Davis. The project also proposes photovoltaics to supply common areas, covered bicycle parking, a community garden, and incorporates an efficient design. Project features and measures and Standard City requirements for stormwater drainage, water conservation, energy efficiency, construction waste recycling requirements, and the recently adopted Green Building Ordinance help to reduce potential construction-related and operational impacts to greenhouse gases. Although the project would have an incremental contribution within the context of the City and region, the individual impact is considered **less than significant**.

DEIR Page 44-45 (Air Quality Health Impacts)

The DEIR page 44-45 under the heading **Air Quality Health Impacts** is hereby amended as follows.

DEIR Page 44.

..... The Air Quality Analysis included a Health Risk Assessment (HRA) to ~~determine~~ estimate the risk to residents of the project from diesel exhaust particulates.

Health Risk Assessment (HRA)

The Health Risk Assessment by LSA Associates was conducted as recommended by OEHHA Guidelines and by ARB. The assessment looked at existing PM₁₀ emission rates using traffic data for I-80, determined the PM₁₀ concentrations, and translated the concentrations to health risk value. The methodology assumes 100 percent outdoor air exposure 24 hours-a-day for a 70-year period. ~~It determined~~ The risk values are used to estimate the acute emission impacts and the carcinogenic and chronic impacts of the project.

DEIR page 45.

.... ARB has developed the “Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles,” which sets a goal of 75% reduction of diesel PM by 2010 and an 85% reduction by ~~2002~~ 2020.

DEIR Pages 46-52 (Proximity to Freeway Health Impacts)

The DEIR pages 46-52 under the heading **Proximity to Freeway Health Impacts** is amended as follows:

DEIR Page 46-47.**Proximity to Freeway Health Impacts**

The YSAQMD Handbook, consistent with ARB guidelines, recommends avoiding locating new, sensitive land uses within 500 feet of freeways or urban roads with more than 100,000 vehicles per day because of potential health impacts. The portion of Interstate 80 that passes through Davis near the project site has average daily traffic of approximately 130,000 vehicles according to Caltrans traffic volumes for 2006.

DEIR Page 47 (3rd paragraph)

..... The HRA results for the proposed New Harmony project indicate that potential health impacts are less than significant. This conclusion is supported by the additional expert air quality analysis provided for the project. At the same time, numerous studies have shown that there are adverse health effects from living near freeways.

DEIR Page 47-51*Gauderman et. al. Study*

During public hearings on the project and the Initial Study, concerns were raised about the health impacts to future residents of the project. Specific concerns about children were cited and a recent study published by Gauderman et. al. in 2007 was referenced. This study examined the effect of exposure to traffic on the lung development of children in 12 southern California communities. The study found that children living within 500 meters (1,640 feet) of a freeway had substantial deficits in lung-function development compared with children living at least 1500 meters from a freeway. This was independent of regional air quality.

This study confirms findings from other studies cited or commissioned by ARB that have shaped California's air quality standards and rules. ~~Despite these studies, there is little information on how to quantify the adverse health impacts from living near highways and consequently there are no clear thresholds.~~ However, there are no established thresholds for exposure to mobile source emissions. The basic guideline is that residential development adjacent to highways should be generally avoided, but when it is proposed site-specific studies should be done to evaluate the health risks.

LSA Health Risk Assessment

The LSA Health Risk Assessment (HRA) primarily addresses the localized impact of TACs at the project site and calculates the estimated increased cancer risk. Prolonged exposure to particulate matter can also result in adverse chronic and acute effects, especially to children and sensitive receptors. Chronic and acute impacts in the HRA are calculated as a hazard index which is the ratio of the predicted pollutant concentration on-site to a threshold

concentration. The threshold concentration is that which has been associated with some adverse health effect. It provides a quantification of the overall risk for chronic and acute impacts which includes short-term effects from exposure as well as longer-term impacts from respiratory illnesses, bronchitis, and asthma associated with exposure to particulate matter. As discussed above, the results are well below the hazard index used for stationary sources.

Nevertheless, health effects occur even at these lower levels and the chronic and acute health index does not directly measure or address the potential deficiency in lung function growth that might occur to children living at the project site. The Gauderman et. al. study demonstrated impacts to children living in proximity to freeways, but the information does not yet exist to be able to estimate the impacts or risk to children's lung development beyond a qualitative discussion or to identify the link to specific pollutants. Impacts to lung development would be manifest in susceptibility to asthma and other illnesses and increased hospitalizations. The HRA quantifies the emissions and resulting concentrations to which children in the proposed project would be exposed in order to determine the maximum potential non-cancer acute and chronic health hazards and cancer risk. The results indicate that the risks are less than significant.

Particulate concentrations can provide some insight on the expected health outcomes. The annual average PM_{2.5} concentrations measured at the nearest monitoring station for 2006 was 9.3 ug/m³ (micrograms per cubic meter) and a 24-hour maximum concentration of 44 ug/m³. These measurements are taken some distance from the project site. They do not necessarily reflect concentrations found on-site, but are generally representative of the region. The particulate matter concentration at the project site attributed to the freeway traffic was estimated in the HRA to be approximately 0.026 ug/m³.

Cahill Analysis

Additional independent analysis of the project's air quality impacts was performed by Dr. Thomas Cahill on behalf of the City and is included in the Appendix 8.5 and 8.6. Dr. Cahill provided data and expert opinion on local air quality characteristics based on numerous studies he has conducted in the Davis and Sacramento area. Dr. Cahill is a scientist associated with the University of California at Davis. He specializes in airborne particulates and climate studies and has published numerous air quality studies.

In his analysis, Dr. Cahill determined that the impact of Interstate 80 on the New Harmony project site would be minor. He noted that the dominant characteristic of the site is that it lies upwind of Interstate 80 in most prevailing wind conditions. Both higher traffic speeds and the prevailing northerly winds would help to dilute the highway pollutants and direct them

away from the site. He also pointed out that regional influences were more important determinants of the air quality. Based on local data and measurements from a similar nearby site, there were no indications that the project site would experience particularly high concentrations of pollutants. Dr. Cahill also recommended adding vegetative barriers with non-deciduous trees which have been shown to absorb diesel exhaust and installing air filtration systems in the dwelling units to mitigate the potential impact.

Sierra Research Analysis

Sierra Research, an air quality consulting firm, was hired by the Sacramento Area Council of Governments (SACOG) and the City of Davis to peer review the LSA Air Quality Analysis and Health Risk Assessment and to provide expert opinion on the potential air quality health impacts, including the Gauderman et. al. study. Their assessment is included in the Appendix 8.4. Sierra Research determined that the LSA report addressed the necessary elements of an HRA, used accepted methodology, appeared to provide accurate data, and conducted a proper analysis. Sierra Research found that the conclusions of the LSA analysis, the HRA, the general health-related determinations, and the cancer and non-cancer risk assessments were reasonable and consistent with other similar analyses.

According to Sierra Research, the local ambient data indicate that air quality in the Davis area is generally good. There were no recent violations reported of state or federal ambient air quality standards for the criteria pollutants except for the occasional exceedance of ozone and PM₁₀, which is consistent with other communities in the lower Sacramento Valley. It should be noted that local ambient data is collected at monitoring stations throughout the air district and are not particularly close to the project site. The closest station to the project site is located on the U.C. Davis campus at the northeast corner of I-80 and State Route 113. Local conditions at the project site are not necessarily reflected in the monitoring data, particularly for particulates, which tend to have less of a regional impact. Nevertheless, there was nothing to suggest that the project site was is a pollution “hot spot” with significantly higher concentrations than in surrounding areas. The monitoring station on U.C. Davis is located on the north side of the freeway in the path of the prevailing winds. The project site meanwhile is located on the south side of the freeway where the prevailing winds can blow much of the freeway effect away from the site. Sierra Research did not dispute the conclusion by Gauderman et. al. that concentrations of pollutants near freeways are higher than at locations farther away. The pollutant concentration on the project site would be expected to be somewhat higher because of proximity to the freeway, but the concentrations are not expected to be unusually high. However, the concentrations representative of the project site do not appear to be excessive or unusual.

In their review of the Gauderman et. al. study, Sierra Research concluded that because the statistical confidence intervals for the reductions measured in the lung development of the children living in the three different distance ranges overlapped each other, it would be “difficult to apply the results of the study, on a quantitative level, to a conclusion that exposures to emissions from I-80 in residents of the New Harmony project would decrease lung function growth in children between 10 and 18 years of age.” They pointed out that the decreased lung function growth measured in the study cannot be related to cancer risk or non-cancer chronic or acute health effects, which were the health impacts addressed in the HRA. In their concluding remarks, Sierra Research repeated their general agreement with LSA’s work and stated that the Gauderman et. al. study did not undermine the conclusions of the LSA report.

Applicability to Project Implications

The air quality analysis and related studies prepared for the project support the conclusion that although freeway pollutants are a concern at the project site, lacking established thresholds, the estimated exposure risks are within a generally acceptable range. None of the studies or reports discussed directly contradict each other or inherently conflict, but they do not necessarily complement one another. Given the complexity and scope of air quality issues and health impacts, this is understandable. There are many sides to the issue. At the same time, there is no doubt about the adverse health effects of traffic and vehicle emissions. Nor is there any dispute that pollutants are more concentrated closer to their source, such as near roads and highways. The Gauderman et. al. study is one study out of many studies that has contributed to the knowledge base and has informed decision-making about air quality and freeway health effects. State and Federal standards have tightened to further protect the public health as new information is learned and as improvements continue to be made. For example, in 2000 ARB adopted a diesel risk reduction plan with a goal of 75% reduction in diesel PM by 2010 and an 85% reduction in diesel PM by 2020. It has already resulted in air quality improvements and is expected to provide continued benefits through more stringent engine controls and fuel improvements as older vehicles are phased out. However, some of the benefits could be offset by increases in overall vehicle miles traveled. Additionally, air quality standards are periodically re-evaluated. When ARB established its 24-hour average standard of 12 ug/m³ for PM_{2.5} in 2002, it estimated that reducing ambient PM_{2.5} from current levels to the 12 ug/m³ in California would result in approximately 6,500 fewer deaths and 6,960 fewer hospitalizations annually (ARB Staff Report, 2002).

~~However, it~~ It is important to note that the Gauderman et. al. study is a generalized health study. To the degree that it is applicable to the New Harmony project site, the study’s

conclusions only apply in a general sense. Although studies have demonstrated higher pollutant concentrations and health impacts from freeways, site-specific analysis and information were provided in the Health Risk Assessment for the project. The results of the HRA did not indicate any unusual concerns or impacts about the project or project site. It acknowledged that there would be an elevated exposure risk at the project's location because of the nearby freeway. However, the level of concentration, the local meteorological setting, the site-specific conditions and measures, as well as other factors, all influence exposure levels and their impacts.

The background cancer risk in the Sacramento Valley Air Basin was about 520 per million in 2000. This level is already considered high and unhealthy and any increase in exposure should be evaluated and carefully considered. The HRA calculated the additional cancer risk for residents of the proposed project at 9.0 per million, which would be in addition to the 520 per million. By contrast, ARB estimates that the background cancer risk in the South Coast Air Basin (the area of the Gauderman et. al. study) in 2000 was already 1,000 per million. It is an indication of the overall higher pollutant levels found in the South Coast Air Basin.

The LSA Health Risk Assessment calculated the freeway contribution to the PM pollutant concentration on-site as approximately 0.026 ug/m³. For comparison, the City of San Francisco adopted 0.2 ug/m³ as a PM 2.5 concentration threshold. Projects that would expose residents to concentrations above this level are required to provide mitigation, such as enhanced filtration. 0.2 ug/m³ threshold was set as a level of significance based on forecasted health impacts cited in guidelines for addressing roadway proximity health effects prepared the San Francisco Health Department that indicated a 0.2 ug/m³ increase in PM_{2.5} would result in a 0.28% increase in non-injury mortality or an increase in about 21 excess deaths per 1,000,000 population per year from non-injury causes in San Francisco and estimates using ARB health effects assessment methodology that indicated a 0.2 ug/m³ increase in PM_{2.5} affecting a population of 100,000 adults would result in about 20 extra premature deaths per year, 160 days per year with respiratory symptoms, 108 days with work limitations, and 577 days with minor activity limitations (City and County of San Francisco, Public Health Department, May 6, 2008).

The modeling performed for the HRA is an estimate, that provides the best available information on the additional concentrations. The HRA indicates the potential health risk on the project site is less than significant. However, because of the numerous studies demonstrating adverse health effects from freeways and the elevated health risk from exposure to higher PM concentrations and TACs on the project site, the impacts are considered potentially significant. Although the additional estimated freeway-attributable

PM contribution on the site is relatively low and the project already proposes measures to address air quality concerns, the potential impact could be further reduced through mitigation to ensure a less than significant effect.

Mitigation

The YSAQMD handbook recognizes that sensitive land uses may be placed within the 500-foot distance from a freeway because of other considerations, such as housing, transportation, or economic development. The handbook also recognizes that site-specific design improvements may help to reduce air pollution exposure, but specific measures are not provided. The Sacramento Metropolitan Air Quality Management District (SMAQMD) has drafted recommendations for evaluating the location of sensitive land uses in its “Recommended Protocol for Evaluating the Location of Sensitive Land Uses next to Major Roadways, Version 2.0” (October 2008). The SMAQMD Protocol was used to evaluate the proposed project.

The SMQMD Recommended Protocol suggests potential mitigation measures to reduce exposure levels. They include increasing the project distance from the freeway, site design to create a buffer, enhanced vegetative plantings, and other filtering systems. It cited a study (Fujii et. al., 2008) measuring the filtration effectiveness of leaves and needles. The study found that all forms of vegetation were able to remove 65-85 percent of very fine particles at wind velocities below 1.5 meters per second (roughly 3 miles per hour) with redwood and deodar cedar being the most effective.

The project already incorporates all feasible and recommended design measures to minimize exposure risks to pollutants. The residential buildings are set back from the Interstate 80 as far as possible. A generous landscape area along Cowell Boulevard will be planted with a dense buffer of trees. A large percentage of the trees will consist of redwood trees which have been shown to be effective in filtering out pollutants and will be planted 10 feet off center. Although it may be several years before the trees grow large enough to provide effective filtration, the proposed filtration system and other measures provide adequate mitigation in the interim. Units will have alternative ventilation to allow for fresh air without the need to open the windows. The project layout uses Building B as a buffer for the rest of the site, particularly for the open space areas. The active outdoor areas are located internal to the site and direct exposure to the freeway is minimized.

The project is also subject to potential noise impacts from traffic on I-80 which is discussed in Section 4.3. Noise mitigation measures for maximizing the setback from the freeway, higher quality windows for sound attenuation, alternative ventilation for units, and siting of

outdoor areas where they would be buffered from the highway traffic noise are proposed. Because the noise impact is related to freeway traffic, these measures are also effective at addressing air quality impacts.

Unfortunately, it is not yet possible to quantify the benefits of these various measures and the close proximity of the freeway would still result in elevated exposure risks for the site compared to a site farther away. In addition, residents of the project are expected to spend a majority of their time indoors and without filtration the indoor air quality is only as good as the outdoor air quality. Therefore, the impacts are potentially significant and mitigation is required to reduce potential air quality impacts to residents of the project. ~~Minimizing indoor materials that off-gas and incorporating enhanced filtration within the dwellings using passive electrostatic filters and low air velocities to remove residual pollutants would ensure that indoor air quality is better than the outdoor air.~~

Mitigation Measure - ~~Indoor~~ Air Quality

In order to minimize air quality impacts and improve indoor air quality, prior to issuance of building permits the applicant shall incorporate the following mitigation measures into the building plans subject to review and approval of the Community Development Director and Building Official:

- a) *Provide an enhanced filtration for all dwelling units using passive electrostatic filters and low air velocities or equivalent;*
- b) *Use no-VOC paints and low VOC materials, ~~paints~~, and carpeting in the dwelling units consistent with Build It Green's Multi-Family Green Building Guidelines.*
- c) *Air intake systems for the HVAC shall be placed to minimize roadway air pollution sources.*
- d) *Provide and implement a plan for notification to new residents about the potential health impacts from traffic pollution and for the on-going maintenance of the ventilation and filtration system.*

Minimizing indoor materials that off-gas and incorporating enhanced filtration within the dwellings using passive electrostatic filters and low air velocities to remove residual pollutants would ensure that indoor air quality is better than the outdoor air. Although children typically spend more time outdoors than adults, the majority of their time is still spent indoors. Furthermore, local schools serving the project site are outside of the 500 meter area of concern from the freeway. Studies have also shown that filtration systems can provide substantial benefits for indoor air quality and are effective at controlling residential exposure to fine and ultra-fine particles (MacIntosh et. al. 2008 and Cahill, 2006). Upgrading from a standard (non-HEPA) filter to an electrostatic filter can result in a reduction of 75% of very fine and ultra-fine pollution at a reasonable cost and provide substantial mitigation.

The proposed New Harmony project does not exceed any air quality standards and there are no indications that the site would have an unusually high concentration of pollutants. Health studies that have linked proximity to freeways with increased health impacts support previous studies and provide general health findings. However, they do not provide site-specific data that can be used to evaluate the New Harmony project or provide results that allow the specific health impacts associated with the project site to be quantified. The HRA is site-specific and uses very health-protective assumptions. The results demonstrate that the additional exposure risks are within generally acceptable levels. The project site also benefits from the prevailing winds that disperse highway pollutants away from the site. Feasible and recommended measures are already incorporated into the project design and implementation of the above mitigation would further reduce the potential health risk. Therefore, health impacts from proximity of the site to the freeway are considered **less than significant with mitigation**.

DEIR Pages 75-76 (References, EIR Authors, Persons Consulted)

The DEIR pages 75-76, Section **7.1 References**, is hereby amended to add the following:

23. Fujii, Erin, Lawton, J., Cahill T.A., Barnes, D.E., Hayes, C. (IASTE intern), Spada, N., The DELTA Group, Univ. of California, Davis 95616 and McPherson, G., the Pacific Southwest USFS Urban Forest Program. *Removal Rates of Particulate Matter onto Vegetation as a Function of Particle Size*. February 24, 2008.
24. City and County of San Francisco, Department of Environmental Health. *Assessment and Mitigation of Air Pollutant Health Effects from Intra-urban Roadways: Guidance for Land Use Planning and Environmental Review*. By R. Bhatia & T. Rivard. May 6, 2008.
25. California Air Resources Board. *Public Hearing to Consider Amendments to the Ambient Air Quality Standards for Particulate Matter and Sulfates Staff Report*. May 3, 2002.
26. MacIntosh, David L., Myatt T.A., Ludwig, J.F., Baker, B.J., Suh, H.H., and Spengler, J.D. *Whole House Particle Removal and Clean Air Delivery Rates for In-Duct and Portable Ventilation Systems*. Journal of the Air and Waste Management Association. November 2008.
27. Cahill, Thomas A., *Vehicular Exposures and Potential Mitigations Downwind of Watt Avenue, Sacramento CA.*. Report to Health Effects Task Force, Breathe California of Sacramento-Emigrant Trails. October 23, 2006.

The DEIR page 76, Section **7.2 EIR Authors/Persons Consulted**, is hereby amended to add:

City and County of San Francisco, Department of Public Health

Tom Rivard

Senior Environmental Health Specialist.

SECTION 3

3.0 LIST OF COMMENTERS

The following is a list of written and oral comments received identifying the commenter number, the person or entity submitting the letter, and the DEIR page number on which the comments and responses to the comments appear.

| <u>Commenter #</u> | <u>Person/Entity</u> | <u>Pages</u> |
|---------------------------|---|---------------------|
| 1. | Yolo Solano Air Quality Management District | 29 |
| 2. | Department of Toxic Substances Control | 32 |
| 3. | City of Davis Planning Commission Meeting | 34 |
| 4. | City of Davis Natural Resources Commission Meeting | 41 |
| 5. | Kris Kordana, Planning Commissioner | 45 |
| 6. | Charles Ehrlich, Natural Resources Commissioner | 49 |
| 7. | Mark Lubell, Natural Resources Commissioner | 53 |
| 8. | Sacramento Mutual Housing Association (SMHA)/ Yolo Mutual Housing Association (YMHA) | 55 |
| 9. | Sacramento Housing Alliance (SHA) | 64 |
| 10. | Tori Bovard | 67 |
| 11. | Dan Brugger | 69 |
| 12. | Sandra Wells | 71 |
| 13. | Cathy and Christian Renaudin | 73 |
| 14. | Richard Seyman, Environmental Council of Sacramento | 74 |
| 15. | Legal Services of Northern California | 79 |
| 16. | Sierra Research | 81 |

SECTION 4

4.0 COMMENTS AND RESPONSES

This section contains the comments received on the DEIR during the public comment period and a response to those comments. Section 4.1 is a Master Response to comments that addresses the main concerns about the DEIR that were shared by multiple commenters. Section 4.2 contains the specific comments received. Responses to those comments either reference the Master Response or are specifically addressed.

4.1 MASTER RESPONSE TO COMMENTS

This master response to the comments received on the New Harmony Draft Environmental Impact Report addresses questions and concerns related to the air quality and health impacts of the project. Comments were received concerning the adequacy of the document relative to the analysis and conclusions of the air quality health impacts and the project's proximity to Interstate 80. Numerous health studies have examined and documented the adverse health effects from roadway traffic and vehicle emissions. Of particular concern were the findings from the recent Gauderman et. al. study, published in 2007 in the British medical journal *The Lancet*, that examined the impacts to lung development of children living near freeways. These concerns were shared by members of the public and members of the Davis Planning Commission and Davis Natural Resources Commission. Those raising this concern included Dr. Dan Brugger, a local resident and physician, and Dr. Kris Kordana, a physician and Planning Commissioner. These commenters stated that the site-specific air quality analyses and health risk assessments prepared for the project did not address the findings of the Gauderman study.

The air quality analysis and health risk assessment was prepared by LSA Associates with additional analyses from third-party, air quality consultants, Dr. Thomas Cahill and Sierra Research, who reviewed the materials and provided their expert opinion. Both Dr. Cahill and Sierra Research concurred with analysis and findings from the LSA report which determined that the additional potential non-cancer acute and chronic health hazards and the additional potential cancer risk for the project site was less than significant. Comments from the Yolo Solano Air Quality Management District (YSAQMD) also reviewed the material and found the LSA methodology, analysis, and conclusions to be reasonable, accurate, and consistent with standard practice. Other comments and additional materials were received from Commissioners and interested members of the public and organizations that generally supported the analysis and conclusions of the EIR relative to air quality.

The basic purpose of the environmental review process under CEQA is to inform decision makers and the public about potential significant environmental effects and to identify ways to

reduce those impacts to a less than significant level, if feasible (CEQA Guidelines §15002). The analysis and disclosure of the potential impacts allows for healthy discussion and debate to occur, but will not necessarily resolve every concern or question. The substantial public comment received about the New Harmony DEIR testifies to this with comments received on both sides of the issue. The majority of the comments were directed towards the analysis and discussion of the potential air quality health impacts of the project.

Comments focused on the particular issue raised by the Gauderman study: whether the site's proximity to I-80 poses a risk to the development of lungs in children and adolescents. The comments thus focused on one specific aspect of one particular impact. The comments generally fell under three broad areas summarized below and addressed in the following discussion:

1. The discussion and determination of the air quality health impacts in the DEIR and the analyses provided by the air quality consultants did not adequately address the findings of the Gauderman study. The Gauderman study concluded, based on epidemiological data, that there is a correlation between proximity to freeways and the development of lungs in children. The study concluded that data indicate that the development of lungs in children living near freeways is impaired as compared to those children living farther away. According to Dr. Kordana and Dr. Brugger, the analyses prepared for the site did not address this particular issue.
2. The DEIR uses the same analysis and information for its conclusions as provided by the air quality consultants for the project which is based on estimates and modeling. The Gauderman study found that its modeling did not reliably predict the impacts on lung development among children. Dr. Kordana commented that, for this reason, the air quality modeling cannot be relied upon to reach a conclusion with respect to this particular impact.
3. The DEIR incorrectly finds the health impacts to be less than significant or insignificant and proposed mitigation is insufficient. Again, these comments focused on potential impacts to childhood lung development.

The comments submitted by Dr. Kordana, Dr. Brugger and others are included in the Final EIR. The above summary is not intended to supplant those comments. Rather, the above summary is designed to identify certain common themes in the comments, in order to lend structure to this Master Response.

1. DEIR Adequacy Relative to Gauderman Study and Lung Development Impacts

The DEIR and the Health Risk Assessment (HRA) prepared for the project address a number of potential health impacts related to the project. They include cancer-related impacts and non-cancer chronic and acute impacts. As discussed in the DEIR, these impacts are evaluated based on the increased hazard risk that someone living at the site would be exposed to due to nearby sources of pollutants. In this case, the pollutant source of concern consists of emissions from the large number of vehicles traveling on Interstate 80 near the project site. These impacts encompass the additional risk of contracting cancer from toxic air contaminants (TACs), the increased risk that chronic exposure to pollutants such as particulate matter would result in higher rates of bronchitis, asthma, and other respiratory diseases, and the increased risk of short-term exposure causing or aggravating chronic respiratory diseases.

The DEIR acknowledges that there are numerous other health studies which have investigated the health effects of roadway traffic, but does not address them in detail. The air quality discussion in the DEIR is not intended as a literature review of all the possible related health studies. The DEIR is not able to and is not required to reconcile all the possible scientific questions or uncertainties. The DEIR does provide a brief summary of the Gauderman study and its findings under the sub-section titled “Gauderman et. al. Study” that begins on page 47 of the DEIR. Because this specific study was presented as evidence of an impact, the DEIR summarizes and discloses the information. The study’s findings about the potential lung development impacts are included in the discussion and in the consideration of the potential health impacts. The study’s findings indicate that children living near freeways would have impaired lung development compared to those living farther away. The study does not indicate how much of an impairment would be significant, or the point at which proximity to a freeway would result in significance, increased risk of asthma or other respiratory illnesses among children. The study is based on data obtained from various sites located in Southern California; thus, the study does not consider data from the City of Davis, or indicate how to quantify the potential impact at the New Harmony site. The DEIR accepts the findings of the Gauderman study as additional information about the potential health impacts. It does not attempt to dispute the study’s findings, but presents it as additional information along with the multiple other studies which have also demonstrated health effects from roadway pollution. Additional text and discussion has also been added to the EIR to expand and clarify the discussion of the freeway-related health impacts and the Gauderman study (see FEIR Section 2.3 Text Changes).

The HRA prepared by LSA for the New Harmony site does not directly address the impact on lung development in children. However, as noted in the supplemental memo from Sierra Research dated February 6, 2009 and included in the FEIR as Commenter 16, the HRA *“does specifically quantify the emissions, and resulting concentrations to which children in the proposed project would be exposed, for Diesel exhaust particulate and the toxic gaseous*

compounds generated by gasoline combustion in freeway vehicles. It is exactly this set of TACs that can impact lung function growth in children or cause other health effects, both in children and adults, but only if emitted at high enough emission rates that result in high enough ground-level concentrations.” In response to the comments, the memo provides additional discussion and analysis of the Gauderman study. It also points out a number of potential limitations to the study. Questions raised in the Sierra Research memo about the Gauderman study include:

- Location of the children’s schools to freeways was apparently not considered or addressed.
- Inconsistencies in the data from children in the intermediate distance groups, those living between 500 meters and 1,500 meters from a freeway.
- A lack of statistical significance between most of the lung function measurements and distance or modeled pollution levels.
- The study used a dispersion model (CALINE 4) that is incapable of modeling dispersion from a year of meteorological data and is typically used for analysis of short-term (one-hour or eight-hour) impacts.
- Air dispersion modeling was based on data from a single year (2000) and does not account for the changing conditions that may have occurred over the eight-year study period.

Both the DEIR and the HRA conclude that there are health impacts. The HRA finds that the impacts are less than significant based on the pollutant concentrations that would be expected on-site. The DEIR takes a more conservative approach and finds that the health impacts are potentially significant for the project because of the project’s proximity to the freeway, the multiple health studies that have examined the health effects of freeways and traffic, the lack of established thresholds for mobile sources, and the additional feasible mitigation that could be incorporated to reduce the level of uncertainty about the impacts.

The HRA and DEIR do not make a specific determination of significance regarding the potential impact to lung development in children at the project site. Presently it is not possible to determine the additional risk or amount of lung impairment for the project that would be attributable to freeway pollutants. The impacts to lung development manifest in related respiratory illnesses and hospitalizations, but it is also not possible to say when a lung impairment would result in an illness. The lung impacts are demonstrated in the evaluation of those risks, but the specific impact can only be addressed as a qualitative discussion.

The DEIR appropriately considers the information provided along with other air quality data and analysis. The City of Davis as the Lead Agency has the discretionary authority to determine based on substantial evidence whether the project would result in any significant adverse environmental impacts (CEQA Guidelines §15064).

2. HRA Adequacy and Air Quality Modeling

The air quality section of the DEIR relies on the LSA Air Quality Assessment and Health Risk Assessment that were specifically prepared for the project to evaluate the potential air quality impacts. The reports were prepared by qualified air quality consultants in accordance with accepted methodology. The LSA analysis was thoroughly reviewed by independent air quality experts, Dr. Thomas Cahill and Sierra Research, on behalf of the City. The LSA analysis was also reviewed by the Yolo Solano Air Quality Management District and determined to be adequate and accurate.

The Health Risk Assessment (HRA) provides an estimate of the additional potential health risk to project residents posed by Interstate 80. The HRA is standard practice for this type of analysis. It uses the best available models and incorporates site-specific conditions to provide the best information possible. It is not intended as a substitute for epidemiological studies which attempt to link health outcomes to specific factors. By their nature, epidemiological studies focus on observed health effects in populations, and on identifying causal links between environmental or public health phenomena and those observed effects; for this reason, such studies can be performed only after the fact. The HRA estimates the health risks beforehand to disclose the potential hazard; an HRA is therefore a predictive tool.

The HRA prepared for the project evaluated both the cancer-related and non-cancer-related health risks. For non-cancer health risks, it assessed chronic and acute impacts that include a range of cardiovascular and respiratory effects. The cancer risks from toxic air contaminants are linked to specific chemicals and more easily quantified. Non-cancer risks cannot be individually evaluated or measured to determine the likelihood that an individual living at the proposed project site would suffer from asthma or other health effects due to the freeway traffic. The Health Risk Assessment used methodology accepted by Air Resources Board (ARB) and the air districts for this type of analysis. It relies on site-specific modeling. It includes specific meteorological conditions, highway traffic, and other factors. It is understood that there would be a greater level of exposure to pollutants at the project site, but there has been no indication that the project site would be considered a “hot spot” with unusually high pollutant concentrations.

The analysis and determination of the potential impact is based on expert opinion and evidence provided by multiple air quality experts. Evaluation of the exposure risk is an appropriate method of analysis and the modeling used in the HRA has been thoroughly tested and widely accepted for air quality analysis. CEQA Guidelines §15384(b) defines substantial evidence as “*facts, reasonable assumptions predicated on facts, and expert opinion supported by facts.*” The argument that air quality analysis is insufficient is partly based on the claim that the expected impacts from the air quality modeling used in the Gauderman study were shown to be incorrect

against the epidemiological evidence. The modeling did not predict the impacts and differences that showed up in the actual measurements of lung development. As stated above, the supplemental memo from Sierra Research further addressed the Gauderman study and noted potential limitations that included the dispersion modeling used in the study. The claim that the air quality or HRA modeling used for the project may be inaccurate or incorrect has not been substantiated.

There were also comments that on-site monitoring should be done to measure actual pollutant levels to provide more reliable data than the modeling could. As a practical matter, on-site monitoring is generally not feasible. Because of fluctuations throughout the seasons, a minimum of one-year worth of data should be collected. It would require a significant amount of time and money to conduct. A shorter period of data collection would be a snapshot in time and could provide some comparative data, but would not necessarily be representative of overall exposure levels. The modeling used in the air quality analysis was based on data obtained from local air quality monitoring stations. The data is considered representative of air quality in the region.

The modeling conducted by LSA Associates estimated the freeway contribution to the PM pollutant concentration on-site at approximately 0.026 ug/m^3 (micrograms per cubic meter). This amount would be in addition to existing PM levels. As mentioned previously, there is no established threshold for the project site concerning exposure to mobile source emissions. The City of San Francisco recently adopted 0.2 ug/m^3 as a $\text{PM}_{2.5}$ concentration threshold for sites near freeways. Projects in San Francisco that would expose residents to additional concentrations above this level are required to provide mitigation, such as enhanced filtration. The 0.2 ug/m^3 threshold was set as a level of significance based on forecasted health impacts that indicated a 0.2 ug/m^3 increase in $\text{PM}_{2.5}$ would result in a 0.28% increase in non-injury mortality or an increase in about 21 excess deaths per 1,000,000 population per year from non-injury causes in San Francisco and estimates using ARB health effects assessment methodology that indicated a 0.2 ug/m^3 increase in $\text{PM}_{2.5}$ affecting a population of 100,000 adults would result in about 20 extra premature deaths per year, 160 days per year with respiratory symptoms, 108 days with work limitations, and 577 days with minor activity limitations (City and County of San Francisco, Public Health Department, May 6, 2008). In comparison to the San Francisco threshold that would require mitigation, the additional estimated level at the New Harmony project site (0.026 ug/m^3) is about one-tenth the amount.

The concerns about the potential lung development impacts are based on the findings and health effects identified in the Gauderman study. Essentially, the commenters take the position that, although the DEIR and HRA address air quality impacts generally, the DEIR and HRA do not address the particular conclusions of the Gauderman study concerning lung development and (in the view of the commenters) these conclusion give rise to a significant impact. In other words,

under this view, the DEIR and HRA may address chronic and acute impacts, but they do not address lung development – the focus of the Gauderman study. This may be a legitimate position to take, but CEQA allows for different interpretations of information, disagreement among experts, and even conflicting evidence. A disagreement among experts may be treated as a significant impact for the purposes of determining whether or not to prepare an EIR. However, it does not necessarily mean that it is a significant impact. The lead agency has the responsibility and the discretion to weigh the evidence, to evaluate competing information if necessary, and to determine the significance of an impact (CEQA Guidelines §15064).

3. Determination of Impacts and Levels of Significance

As already noted in the DEIR and in the comments on the DEIR, health studies and epidemiological evidence have demonstrated adverse health effects from exposure to vehicle emissions and the higher pollutant concentrations that can be found near freeways and other high-traffic roadways. Currently there is no established threshold to determine the significance of the general health impact for the project from exposure to mobile source emissions, let alone the potential effect on the lung development of children. The DEIR recognizes that there are potentially significant health impacts. This would include the potential impacts to the lung development of children. However, based on the substantial evidence in the analyses provided by the air quality experts for the project, the site-specific health risk assessment, and the measures incorporated into the project design and required for mitigation, the EIR finds the health impacts to be less than significant with mitigation.

The comments on the DEIR indicate disagreement about the level of significance. Furthermore, there is also disagreement about the extent to which the potential lung development impacts need to be specifically addressed and the adequacy of the proposed mitigation measure. Disagreement or doubt does not necessarily indicate a significant impact. As stated previously, the City of Davis, as the lead agency, has the discretion to determine the significance of the impact and the appropriate mitigation if feasible that would reduce the impact to a less than significant level. Sufficient evidence has been presented to support the conclusions of the DEIR. The site-specific air quality analysis was prepared by qualified air quality consultants and was reviewed by independent air quality experts who supported the methodology and conclusions. Non-cancer health impacts are addressed in the analysis. The specific effect on lung function development of children is not described in detail, but its consideration is included in the analysis and discussion of chronic impacts. Additional discussion has also been added to the Final EIR to further clarify the potential lung development impacts.

In addition to measures incorporated into the project design such as the dense evergreen buffer that will help to filter out pollutants, proposed mitigation includes installation of upgraded air filters in the dwelling units and use of no-VOC paints or low-VOC materials to improve indoor

air quality. Although it is not possible to quantify the benefits of these measures, these measures can provide substantial improvements to the air quality by reducing potential exposure to harmful pollutants. Evergreen redwood and deodar cedar trees proposed by the project have been shown to be effective at filtering out 65 to 85 percent particulate matter in some cases (Fujii et. al., 2008). Upgraded filters that are effective at reducing pollutants by 75 to 80 percent are available at relatively low costs (MacIntosh et. al. 2008 and Cahill, 2006). Other considerations include the prevailing winds that generally blow the freeway effect away from the site, health-protective assumptions in the HRA modeling which assumes a 24-hour-a-day, outdoor exposure to the pollutants for a 70-year period, current lifestyles which keep most people indoors on average 22 hours a day, and neighborhood schools which are located outside of 500-meter freeway impact area noted in the Gauderman study. These considerations on top of the mitigation measures allow the reasonable conclusion to be drawn that the mitigation is appropriate and that the impacts would be reduced to a less-than-significant level.

4.2 RESPONSES TO COMMENTS

This section contains the written and oral comments received during the DEIR comment period and the response to those comments. For written comments, each point in the comment letter is numbered or grouped under a single number where appropriate. Responses are provided and numbered accordingly. The above Master Response to comments is referenced in the applicable comments below.

Oral comments made by the Planning Commission, the Natural Resources Commission, and members of the public on the DEIR during the public meetings are also included. The oral comments are grouped where appropriate and numbered. A response to each comment follows immediately. The oral comments made by commission members are addressed together as one commenter. Written comments that were received from individual commissioners are included and addressed separately.

COMMENTS 1 – Yolo Solano Air Quality Management District

1947 Galileo Ct., Suite 103 • Davis, California 95618



(530) 757-3650 • (800) 287-3650 • Fax (530) 757-3670

January 28, 2009

Mr. Eric Lee
 City of Davis
 Community Development Department
 23 Russell Blvd.
 Davis, CA 95616

RECEIVED

JAN 30 2009

 City of Davis
 Planning & Building

Dear Mr. Lee

The Yolo-Solano Air Quality Management District (District) has received the Draft Environmental Impact Report (DEIR) for the New Harmony Project (Project). We have reviewed the document and offer the following comments:

- 1-1 **Page 36:** The DEIR states that the Clean Air Plan for the 8-hour federal ozone standard is expected to be finalized by the end of 2008. It may be more accurate to state that the Plan is expected to be adopted in early 2009.
- 1-2 **Page 37:** The District agrees that the setback recommendations for high traffic roadways, as found in the Air Resources Board's (ARB) *Handbook for Assessing and Mitigating Air Quality Impacts*, are advisory. While these recommendations are a useful tool for evaluating the potential impacts of certain kinds of land use decisions, they are not to be considered actual thresholds of significance.
- 1-3 **Page 41:** The District acknowledges that dispersion models can be used to help evaluate the risk from toxic air contaminants (TACs) and other particulates. The HARP model used by LSA Associates is an accepted dispersion model. The District's position is that as long as the methodology used is appropriate and the inputs to the model are accurate, the model should yield useful results. At this time, there is no one "official" methodology for evaluating TAC emissions using a dispersion model.
- The District has evaluated the health risk assessment prepared by LSA Associates, and believes that the methodology used is sound. Concerns expressed by the District regarding earlier versions of the assessment have been addressed in this most recent assessment. Since no model can simulate real-world conditions with complete accuracy, the results of the modeling performed by LSA Associates should be viewed as providing a general estimate of impacts at the project site. There will always be a margin of error associated with health risk assessments such as the one performed by LSA Associates.
- 1-4 **Page 44:** The District agrees that the OEHHA Guidelines for conducting a risk assessment use conservative assumptions. These guidelines have been developed in order to be protective of the most at-risk populations.

1-5 **Page 48-50:** The DEIR refers to two additional air quality analyses, one prepared by Dr. Thomas Cahill, and one prepared by Sierra Research. The study prepared by Dr. Cahill presents several pieces of information to show that impacts from the I-80 freeway on residents of New Harmony may be less severe than those described in the Gauderman study, published in the January 26, 2007 issue of The Lancet, a medical journal. The District has reviewed the analysis by Dr. Cahill and believes that the conclusions presented in his analysis are reasonable and based on the available evidence. Impacts from sources such as freeways can vary from site to site, depending on the factors present at each site. With this in mind, it is reasonable to conclude that differences in various factors, such as meteorology, could contribute to variation between impacts from I-80 at the project site and the impacts from freeways at the locations examined in the Gauderman study.

1-6 The summary of the review by Sierra Research, found on pages 48 and 49 of the DEIR states that Sierra Research found that "the local ambient data indicate that air quality in the area is generally good. There were no recent violations reported of state or federal ambient air quality standards for the criteria pollutants except for the occasional exceedance of ozone and PM10, which is consistent with other communities in the lower Sacramento Valley." While the statement made by Sierra Research is true regarding the number of exceedances in the region, it should be emphasized that local ambient data is collected at several monitoring sites throughout the District, none of which are particularly close to the project site. Consequently, local conditions at the project site are not necessarily reflected in the monitoring data, especially for particulates, which tend to have less of a regional impact. The main issue addressed in the air quality analysis is the issue of the localized impact of TACs from I-80 at the project site. The fact that regional ambient air quality is generally good in the District should not be used as evidence that the project site itself has generally good air quality.

1-7 Sierra Research also provided an evaluation of LSA's health risk assessment. Sierra Research's conclusions regarding the appropriateness of the methodology used by LSA are shared by the District. Similar to Sierra Research, District staff has not attempted to duplicate the results of LSA's health risk assessment.

1-8 **Pages 50-51:** The District believes that the mitigation measures proposed by the applicant will be effective, but that they cannot be completely quantified at the present time. While not placing residents near a freeway is most likely the most effective mitigation, the proposed mitigations should nevertheless reduce the inherent risk.

If you have any questions about the comments included in this letter, please feel free to contact me at 530-757-3668 or email me at mjones@ysaqmd.org.

Sincerely,



Matthew Jones
Supervising Planner, YSAQMD

Response to Comment 1-1

The EIR has been corrected to state adoption of the plan is expected in 2009.

Response to Comment 1-2

Comment noted. The ARB setback recommendations are referenced for background information and are not intended to be taken as thresholds of significance. This has been noted in the EIR.

Response to Comment 1-3

As noted in the comment, the methodology and modeling that was used in the health risk assessment is considered acceptable. However, the results of the modeling should be considered general estimates of the impacts and are not intended to be taken as the absolute risk. Text has been added to the EIR clarifying this.

Response to Comment 1-4

Comment noted.

Response to Comment 1-5

Comment noted

Response to Comment 1-6

The EIR notes the location of the monitoring stations in the Environmental Setting section under Local Air Quality. Text has also been added to the EIR clarifying the discussion of the ambient air quality under the Proximity to Freeway Health Impacts section to reflect their locations and some of the ambiguity in extrapolating data from the monitoring stations onto the project site.

Response to Comment 1-7

Comment noted.

Response to Comment 1-8

Comment noted.

COMMENTER 2 – Department of Toxic Substances Control



Linda S. Adams
Secretary for
Environmental Protection



Department of Toxic Substances Control

Maureen F. Gorsen, Director
8800 Cal Center Drive
Sacramento, California 95826-3200



Arnold Schwarzenegger
Governor

February 2, 2009

Mr. Eric Lee
Assistant Planner
Community Development Department
City of Davis
23 Russell Boulevard
Davis, California 95616

DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE NEW HARMONY
AFFORDABLE APARTMENT PROJECT (SCH # 2008122091)

Dear Mr. Lee:

2-1 { The Department of Toxic Substances Control (DTSC) has reviewed the document described above that proposes building residential housing on land previously used for agriculture. DTSC recommends that additional research be conducted to determine whether pesticides were used on the proposed development site. The site should be evaluated to determine if and where storage, mixing, rinsing and disposal of pesticides may have occurred and whether contamination exists.

2-2 { In addition, although DTSC does not regulate pesticides legally applied to crops, if pesticides have historically been used on the property, we strongly recommend that these areas be tested for environmentally persistent pesticides such as organic pesticides and metals prior to development. The results of any testing should be evaluated to determine if concentrations present in soils will be protective of residents and workers.

Please contact me by email at tmiles@dtsc.ca.gov or by telephone at (916) 255-3710 if you have any questions.

Sincerely,

Tim Miles
Hazardous Substances Scientist
Brownfields and Environmental Restoration Program

cc: See next page.

Response to Comment 2-1

Hazards and Hazardous Materials, which includes use of pesticides on the subject property, were addressed in the Initial Environmental Study. The initial study determined that there was no impact from hazardous materials on-site. A Phase I Environmental Site Assessment prepared for the project by Raney Geotechnical Inc. investigated the potential for site contamination from either on- or off-site sources and found no evidence of significant environmental conditions in connection with the property.

The project site was historically used for grazing land and some row crops prior to the mid-1970's to mid-1980's and has been vacant since that time. The Phase I Environmental Site Assessment noted that although there has been no indication that agricultural chemicals on-site were used on-site, there is the possibility because of the site's historic use. It also notes that,

Previous agricultural chemical applications to farmland typically do not seriously impair the soil chemistry. Pesticide contamination is most commonly attributable to the rinsing of application equipment after field application, when rinsing occurs in one place over a period of time. Such rinsing activities are usually performed at a farming headquarters or at an airport supporting crop dusting aircraft; we are not aware of any previous crop dusting or farm headquarters facilities on the subject property.

There has been no indication of any concerns or problems with the possible historic use of pesticides on the project site or in the immediate vicinity. The project site is approximately half-a-mile southwest from the Frontier Fertilizer EPA Superfund Site. The Frontier Fertilizer site is currently undergoing clean-up and treatment for contaminated groundwater and soil. The contaminated groundwater plume extends in a northerly direction from the Frontier Fertilizer site and there has been no indication that any contaminated materials extend anywhere close to the proposed New Harmony project site.

Response to Comment 2-2

See response to Comment 2-1 above.

COMMENTS 3 – Planning Commission

Comments 3 is a summary of the Planning Commission discussion and comments on the DEIR from their January 14, 2009 meeting. Comments are numbered and grouped together where appropriate. The majority of the comments are related to the analysis and conclusions of the air quality and health studies which is addressed in the master response that is referenced. In addition to several public comments supporting the project in general, there were members of the public who made comments about the DEIR which are included below. It should be noted that all the following comments pertain to air quality and health effects.

Summary of Planning Commission DEIR Comments (01/14/2009)

Commissioner Kordana stated three comments/concerns on the DEIR as follows:

- 3-1
1. The LSA study presented in June 2007 which focused mainly on cancer risks was a good study. It concluded that the project itself wasn't significantly impacted from the air quality around it and that the risk of developing cancer was only approximately nine in one million. But the topic of discussion was specifically lung development in children and that wasn't mentioned. The DEIR cites an update to the LSA study but the appendix only shows that it was a memo from LSA to the New Harmony housing company clarifying that the risk of cancer from the project was only nine in one million. That part of the DEIR evades the question of lung development in children.
 2. The second part of the DEIR cites Dr. Thomas Cahill, a noted air quality expert at UC Davis, and a model he has for determining exposure to higher risks of pollutants. He presents a very good model and based on his expert opinions, his conclusions stated there are probably no significant impacts from the project. The problem is that the DEIR fails to address the fact that the Lancet study had a model and factored in the same things that Dr. Cahill factored in, amount of traffic, closeness to the freeway, and meteorological conditions. The study revealed that in all 12 communities studied, only when the model predicted the highest quartile of pollution was there an adverse impact. Yet independent to that, the Lancet study showed with each community studied, proximity to the freeway was an independent adverse risk factor for lung development in children. What was learned from that was that the model doesn't really work. The theories and predictions from the model don't translate to real world data and the DEIR does not address this. The DEIR takes local expert opinion and says that it trumps peer reviewed epidemiological data. This was a major flaw with the study.
 3. Finally, Sierra Research did a peer review of the LSA Study and found it to be a good study. Commissioner Kordana's issues with the LSA Study are with how far it goes. It is very important not to mix the risk of cancer development with the concern of air quality impacts and proximity to the freeway on lung development in children. This is specifically not mentioned in the LSA Study. Furthermore, Sierra Research comes to the opposite conclusion after their review of the data

3-1
cont.

from the researchers. The researchers concluded that there is a significant impact on lung development in children. So, after reviewing the data, Sierra Research states “the differences in lung function growth were mostly not statistically significant. This makes it difficult to apply the results of the study on a quantitative level to conclusion that New Harmony children ages 10-18 years would have decreased lung function growth.” It is important to note that this is an opinion based on their review of the data. The Lancet Study article was peer reviewed by a number of people and by people who have no financial or political ties to any project. Other people outside of those peer reviews flagged this as a significant study. The New England Journal of Medicine commented that efforts to reduce respiratory impairment caused by air pollution should focus not only on regional air quality but also on more local factors such as proximity to freeways.

Commissioner Kordana said in summary the DEIR largely ignored the most current scientific peer reviewed data which indicated there was a significant adverse impact to lung development in children who live within 500 meters of a freeway. This project is about 90 meters from the freeway. The DEIR reached this conclusion based upon selective interpretation of the scientific data while ignoring other evidence that is clearly to the contrary. The Lancet Study should make us pause in making a decision to change current zoning which will result in knowingly putting children in harms way especially when alternatives exist.

Eric Walther of Sierra Research said the Lancet Study was a weak study with a weak correlation of the findings of the study.

3-2

Commissioner Levy stated concerns with the objectivity by Sierra Research and whether the project was being put forward in spite of health risks. It seemed the Sierra Research study was not purely peer reviewed but was somewhat argumentative. The objective analysis of the health effects on the people who may live in the development hasn't been given a complete and accurate point of view which may need to be fixed in the Final EIR.

3-3

Commissioner Hofmann asked staff to consider what overriding considerations would cause us to be compelled to place the project here. He said this wasn't necessarily the last best site left, so if this issue wasn't resolvable, what would make us want or need to put it here.

Mike Webb read the findings that are required for denial of an affordable housing project from *California Planning and Zoning Laws, Section 65589.5*.

3-4

Chairperson Clumpner asked if there was any data that was specifically gathered from the New Harmony site itself. Sierra Research stated that there has been no data gathered from the site itself. All the data has come from other locations which Sierra Research evaluated the relativeness of the data.

3-5

Commissioner Levy said the Air Resources Board recommends a site specific study if the project is going to be within 500 feet of a freeway. Sierra Research clarified that it was

to be a “site specific analysis” for over a year by using meteorology of the site, geometry of the site and roadways, adjacent traffic data to the site and do a site specific dispersion modeling analysis. This approach would be cost prohibitive.

3-6 { Commissioner Levy was not convinced that Sierra Research’s conclusions were supported by the record before the Commission. He didn’t see the data to support the conclusion that there was a preponderance of evidence that the impacts were less than significant with mitigation. He said the Commission would have no right to adopt that finding and would have to adopt a finding that it was potentially significant even with mitigation because of imperfect data.

3-7 { Commissioner Hofmann was concerned with Dr. Cahill’s study in terms of his assumptions on traffic speeds on I-80. Traffic speeds are nowhere near what they were before and projecting in the future, the traffic is getting worse, particularly on Fridays. There should be current data on this from the site.

Chairperson Clumpner opened the public hearing.

3-8 { Whit Manley, attorney representing the applicant of SMHA, addressed some of the concerns the Commission stated. He said the judgment could be made that the impacts were less than significant and the project could be approved without overriding considerations. He stated the applicant approved all of the mitigation measures set forth in the DEIR.

3-9 { Dan Brugger, a physician in Davis, voiced concerns about the potential health aspects in regards to the project. He didn’t feel health had been adequately addressed by the DEIR. He shared Dr. Kordana’s concerns and the preponderance of evidence that he had seen was that there were multiple health impact issues on children and adults due to the location of the project.

3-10 { Rachel Iskow, Executive Director of Yolo and Sacramento Mutual Housing Association, said these three studies seem redundant. She said they commissioned a site specific study, a health risk assessment – the industry standard, and the results were that the health effects of the freeway were not significant due to the direction of the prevailing winds and other factors. It is their opinion that there was not substantial evidence of adverse impact. State law requires that if there is substantial evidence of an adverse impact and if the impacts can be mitigated, then there is no basis for denial under that particular finding for an affordable housing project. Therefore they designed the project with mitigation measures in tact so that any adverse impacts or notion of an adverse impact are mitigated.

3-11 { Wendy Carter, project manager of New Harmony, said the EIR was a lengthy and expensive process. She said to state that this project has significant impacts, creates a huge policy impact. There are 78 units of housing that were planned in the Housing Element that could be subject to denial under the same type of policy. The 78 units are in addition to the 69 units of New Harmony. This is a huge implication and concern to us.

3-12 Sandra Homamee, Program Director and Community Organizer with Sacramento Housing Alliance, said this was a good project which will provide much needed affordable housing for Davis. If they were concerned there was an environmental justice issue, they wouldn't support the project. There is a critical need for this project and they hope the project moves forward without delay.

3-13 Tori Bovard, resident nearby to the proposed development, said it was important to note that the Lancet study was a well controlled longitudinal study and not a computer simulation. In other words, the findings of the study were evidence based and based on real people and real outcomes. Furthermore, the results of the study clearly indicated that risk decreases exponentially as the distance from the freeway increases. The DEIR didn't ignore the study but it dismissed the study and instead cited the need for the site specific study in order to base its conclusions. But the DEIR missed the point because the point of the Lancet Study was that the findings are robust and independent of regional air quality. This is one of the things that Gaudermann used, he used regional data from several different areas in southern California and some of these areas have fewer car counts than we do here. It was a gross misrepresentation this evening when they said "that this was all the smog filled pollutant area." That was simply not the case. The DEIR also dismisses the measurement of lung function and development as an indicator of respiratory health in children. She said "you can't dismiss lung development as an indication of respiratory health."

3-14 Mindy Romero, SMHA Board member and resident in Davis, pointed out that Sierra Research was the third report that had concluded that there are no significant health risks to New Harmony residents or children. There are only concerns over the health risks in the Lancet journal. She felt there wasn't sufficient evidence to deny the project to future residents who could live there. The project was desperately needed and it would take a significant amount of time before another project could be developed like this.

Chairperson Clumpner closed the public hearing.

Commissioner summary comments to the DEIR:

- 3-15
- The rationale used to make the final determination that the health risks are insignificant is based upon subjective interpretation of the best available scientific data. However, the DEIR lacks objectivity and it fails to consider alternative peer reviewed scientific data which reaches an opposite conclusion to that reached in the DEIR. The DEIR reaches the conclusion that health risks are insignificant but this is based on expert opinion which is contrary to the epidemiologic data which is peer reviewed and is before us tonight. The peer reviewed Lancet article is a powerful epidemiologic study; no study is perfect and we have to make decisions on the available data before us. The Lancet study demonstrates a significant adverse impact to lung development in children which occurs between 10 and 18 years of age and which is with them for life. The modeling aspects which are

- 3-15 cont. purported to potentially mitigate adverse impacts are shown by the epidemiologic data not to be that way. The DEIR conclusion is in error.
- The DEIR is not adequate due to lung function and development in children. The mitigations proposed have not been shown to be adequate with respect to the issues of lung function and development raised in the Gauderman et al study and similar studies.
 - The DEIR as presented fails to demonstrate and adequately support its conclusion that no such impacts exist with being 500 feet from the freeway at this particular site.
 - Concerned that the DEIR seems to be a restatement of a previous study and suspect there could be other experts out there to do a true peer review in the industry that may come up with different conclusions.
 - The DEIR failed to fully ventilate the information with the Lancet Study. Sierra Research stated they disagreed with the conclusion of the Lancet study; felt they were coming in with a subjective opinion on the whole issue to begin with.
 - Pointed out that Dr. Brugger today submitted more information about health impacts from studies that were attached to his email. There could be more information out there on health impacts related to distances with the freeway that the DEIR hasn't exhausted.
- 3-16
- The City Council will now have all the information with comments to the DEIR to now consider the EIR as adequate as written.
 - This is really a judgment call that has to be made on the DEIR since there are no thresholds currently other than a guideline from the ARB for stationary sources and none for mobile sources. In this instance, my judgment would be that the impact is less than significant based on the multiple levels of findings from Sierra Research and previous findings thus the DEIR is adequate.
- 3-17
- Additionally, there are very specific and discreet findings to deny affordable housing projects in state statute per *California Planning and Zoning Laws, Section 65589.5*. None of those four reasons listed for denial exist for this project proposal so it is an adequate EIR.
- 3-18
- Don't want this to appear that we are against affordable housing; we have approved a fair number of affordable housing projects. Hopefully, there will be more affordable housing projects brought forward.

Response to Comment 3-1

See the Master Response to comments in Section 4.1.

Response to Comment 3-2

See the Master Response to comments in Section 4.1.

Response to Comment 3-3

Comment noted. The EIR has not identified impacts that would require a statement of overriding considerations.

Response to Comment 3-4

Comment noted. Discussion of data has been added to FEIR.

Response to Comment 3-5

Comment noted. See also Master Response to comments in Section 4.1.

Response to Comment 3-6

See Master Response to comments in Section 4.1.

Response to Comment 3-7

Average daily traffic and traffic speeds used in modeling was based on the most recent data from Caltrans that was available in 2007 when the analysis was completed by LSA Associates.

Response to Comment 3-8

Comment noted.

Response to Comment 3-9

See Master Response to comments in Section 4.1 and written comments included as Commenter 11.

Response to Comment 3-10

Comment noted. See also written comments from SMHA/YMHA included as Commenter 8.

Response to Comment 3-11

Comment noted. See also written comments from SMHA/YMHA included as Commenter 8.

Response to Comment 3-12

Comment noted. See also written comments from Sacramento Housing Alliance included as Commenter 9.

Response to Comment 3-13

See Master Response to comments in Section 4.1 and written comments included as Commenter 10.

Response to Comment 3-14

Comment noted.

Response to Comment 3-15

See Master Response to comments in Section 4.1.

Response to Comment 3-16

Comment noted.

Response to Comment 3-17

Comment noted.

Response to Comment 3-18

Comment noted.

COMMENTER 4 – Natural Resources Commission

Commenter 4 is a summary of the discussion and comments by the Natural Resources Commission on the DEIR from their January 26, 2009 meeting. Comments are numbered below. Additionally, comments on the DEIR were made by one member of the public and are also included below.

Summary of Natural Resources Commission DEIR Comments (01/26/2009)

Charles Ehrlich asked Kris Kordana, the Planning Commission (PC) liaison to the Commission, if he could bring the NRC up to date on the PC's discussion and subsequent denial of the Draft Environmental Impact Report on the New Harmony Apartments based on the inadequacy of the air quality data.

Kris Kordana expressed that the PC felt that the project and people are good, but the health impacts were understated. PC felt that the epidemiology data and mitigation measures needed to be looked at closer and that the conclusions relied on Sierra Research too much in concluding the health issues were not significant.

Discussion covered the following items:

- 4-1 [• Clarification of burrowing owl habitat mitigation mentioned in Commissioner Lubell's email;
- 4-2 [• There is no current standard for mobile emissions;
- 4-2 [• That Tom Cahill, UCD, feels project is less than significant in terms of air quality;
- 4-2 [• Correctness of the way the developer is addressing health impacts and mitigation; DEIR says no significant health impacts, maybe DEIR should state the health effects as undetermined;
- 4-3 [• Adequacy of mitigation measures;
- 4-3 [• Maintenance of filters and reliability of equipment is necessary to be effective;
- 4-4 [• Perhaps the seasonality of air quality should be considered and when people may be indoors or outdoors more;
- 4-4 [• Possibly do a serious sampling plan before air quality determinations are made;
- 4-4 [• There is conflicting scientific evidence;
- 4-5 [• EIR should address what the effect will be on the children before the proposed trees have grown and can provide filtration benefits;
- 4-6 [• Is the zoning change appropriate?
- 4-7 [NRC took public comment. Matt Jones, from Yolo Solano Air Quality Management District, introduced himself to say he was available for any questions. Wendy Carter, SMHA project manager, spoke about the project background, intense analysis project has undergone about health issues, and measures that have been incorporated addressing air quality. Local resident, Sarah Taylor, raised her concerns about health issues and impact to children.

- 4-8 { After much discussion, Adrienne Kandel motioned that the NRC support comments to be summarized by Planning Commissioner Kordana that the DEIR is insufficient in air quality in addressing the health research. Motion was seconded by Herman Boschken, motion passed 3 to 1 with Charles Ehrlich opposed.
- 4-9 { Charles Ehrlich did not think that one health study rose to the level to make denial of a project and proposed that the developer look into attaching HEPA filters to the HVAC units for more effective filtration and use no-VOC paint in the mitigation.
- 4-10 { Charles Ehrlich provided a comparison of energy efficiency for the project under different building scenarios.

Response to Comment 4-1

Proposed mitigation is the standard City mitigation requirement for another biological survey prior to any site work to verify that no burrowing owls are on site. If an occupied burrow is found measures would be taken to protect the burrow or relocate the owls and habitat mitigation would be required. Although the project site is potential burrowing owl habitat, habitat mitigation is not required unless the site is actually occupied. This is consistent with burrowing owl mitigation guidelines from the California Department of Fish and Game (DFG). A site is considered occupied if at least one burrowing owl has been observed occupying a burrow there within the last three years. Burrowing owls were observed an adjacent property in 2003, but no burrowing owls have been observed on the project site. Consistent with DFG guidelines, the impact to the burrowing owls is not considered significant unless the site is occupied. The proposed mitigation is considered adequate to address the potential impacts to burrowing owl habitat. See also written comments from Commissioner Lubell included as Commenter 7.

Response to Comment 4-2

See Master Response to comment in Section 4.1.

Response to Comment 4-3

Proper use and maintenance of the HVAC filtration system is necessary for effective mitigation. The air quality mitigation measure has been modified to add language for notification to residents about the potential health effects from freeway pollution and proper use of the systems; to provide a plan for the on-going maintenance of the filters; and to locate air intake systems to minimize drawing in roadway air pollution. The applicant has indicated their agreement to the modification.

Use of the HVAC system could result in increased utility costs and have potential financial implications for the targeted low-income households. The applicant has clarified that under the new Tax Credit Allocation Committee rules the total housing costs including utilities can equal

no more than 30% of household income. As a result, if utility costs are increased, then rents go down by an equivalent amount. The costs of higher utility bills would be borne by the developer rather than the residents.

Response to Comment 4-4

See Master Response to comments in Section 4.1.

Response to Comment 4-5

One of the project measures to reduce potential exposure to pollutants is the dense buffer of evergreen trees on the northern edge of the residential parcel. Trees have been shown to be an effective filter of airborne pollutants, but it may take several years before the trees are large enough to be effective. However, required mitigation for the indoor air filters are more effective than the vegetation and would ensure good indoor air quality even without the trees. Although it may be some years before the tree buffer benefits the outdoor air quality on-site, the active outdoor areas will be buffered by Building B and the air quality analysis and health risk assessment prepared for the project indicated acceptable risk levels even without mitigation. Additional discussion was added to FEIR in Section 2.3 Text Changes.

Response to Comment 4-6

Comments noted. Comment is related to proposed zoning change.

Response to Comment 4-7

During public comments a member of the public, Sarah Taylor, stated concerns about health issues and impacts to children living near freeways. See Master Response to comments. See also SMHA comments included as Commenter 8.

Response to Comment 4-8

Written comments from Commissioner Kordana were submitted and are included as Commenter 5. See the Master Response to comments in Section 4.1.

Response to Comment 4-9

The air quality mitigation has been modified to require use of no-VOC paints in the dwelling units, but has not been modified for the filter requirement. The comment recommended use of HEPA filters as more effective than the proposed passive electrostatic filters. True HEPA filters are capable of removing 99.97% of particles down to 0.3 microns in size. They have been used in surgical hospitals and nuclear labs, but require very powerful fans and are rarely for residential use. Other high-efficiency filters advertised and sometimes mistakenly called “HEPA” filters can be effective and have a similar effectiveness as the electrostatic filters proposed. Proposed electrostatic filters will provide substantial benefits and be more cost-effective.

Response to Comment 4-10

Project is required to comply with the City's Green Building Ordinance which will ensure an energy-efficient development.

COMMENTS 5 – Kris Kordana, Planning Commissioner

Feb 3, 2009

Eric,

Previously, I raised a concern regarding the New Harmony Project. Specifically, that concern was about the project's close proximity to the freeway (approximately 90 meters) and the fact that a peer reviewed scientific article from a prominent medical journal, *The Lancet*, published in 2007 clearly showed an adverse impact on children's lung development when children lived within 500 meters of a freeway. Since lung development is nearly complete by age 18, an individual with a deficit at this time will probably continue to have less than healthy lung function for the remainder of his/her life.

After review of the draft EIR I firmly believe that the conclusion reached in the EIR is erroneous and that the draft EIR is not adequate. I've made the following comments at both the Planning Commission meeting and the Natural Resources Commission meeting. I was asked by the NRC to put these comments in writing and submit them.

Three sources are cited by the draft EIR in reaching its conclusion. The air quality analysis is based upon:

- 5-1
1. Air Quality Analysis and Health Risk Assessment by LSA Assoc Inc from June 2008 plus an additional memo by LSA Assoc in Nov 2008.
 2. Evaluation of the site and local air quality conditions by Dr. Cahill at UCD.
 3. A "peer review" of the LSA report by Sierra Research Air Quality Consulting.

I'd like to discuss each of these three in turn based upon their contribution to the draft EIR conclusion.

5-2

The LSA analysis is copied verbatim from June of 2008. It was already commented on in prior meetings but there's nothing new in the draft EIR. In general, it's a well done study that focuses on the adverse health effects of common air pollutants based upon existing federal and state air quality guidelines that do NOT have a standard for mobile sources of air pollution. It concludes, rightly so, that there's no direct scientific evidence that living next to a freeway causes a significant increased risk of lung cancer and that the project itself is not expected to generate any significant acute emissions that would cause adverse health impacts BUT it does NOT address the topic at hand which is impaired lung development in children.

This study comprises well over 50% of the EIR analysis yet it has no relevance to the question at hand. It does not mention the Lancet article or address the data regarding lung development in children. The draft EIR reiterates the fact that there's no cancer risk and in fact, it cites an LSA Assoc Update which is actually a memo from 24 Nov 08 from LSA Assoc to Wendy Carter at

Sac Mutual Housing Assoc stating that the cancer risk posed to potential residents of New Harmony is 9 in 1 million.

5-3 The second source for air quality cited in the draft EIR is Dr. Cahill of UCD. His site evaluation is based upon local air quality models (no actual measurements at the site were obtained) and he concludes, in his expert opinion, that there would be minimal impact to residents of the project. This conclusion is based, in large part, on the fact that the freeway is “upwind” of the prevailing winds.

These conclusions are freely cited in the draft EIR yet the draft EIR conveniently ignores the methodology of the Lancet article. The Lancet study actually did evaluate the impact of freeway proximity and traffic related air pollution on lung development in children. They estimated traffic related air pollution based upon a dispersion model SIMILAR to Dr. Cahill’s model. It factored in freeway proximity, vehicle counts, vehicle emission rates, AND LOCAL METEOROLOGICAL conditions. The researchers did note a significant adverse association between lung development in children and the air pollution model BUT IT WAS INDEPENDENT AND ADDITIVE TO THE ADVERSE IMPACTS ON CHILDREN’S LUNG DEVELOPMENT RELATED TO PROXIMITY TO THE FREEWAY!

5-4 Thus, it would appear to the unbiased observer that the draft EIR continues to rely on expert opinion to refute the findings of the Lancet study while citing the very same type of modeling data that was shown in the study NOT to be a reliable predictor of adverse lung development in children.

This, I believe, represents a major flaw in the logic of the draft EIR. When confronted with new data that doesn’t quite fit the existing “model” of reality, one type of academic might approach the situation by saying “The data is wrong, I know more than the data” but the true academic with an open mind and an unbiased opinion and a goal of advancing knowledge might approach the same data by saying “Isn’t that interesting? Perhaps I should adjust my worldview to accommodate the variances” thus leading to new discoveries and the advancement of human knowledge.

5-5 Finally, in the only part of the draft EIR to directly address the specific health issue of concern raised earlier, the draft EIR cites a conclusion reached by two employees of Sierra Research who conclude, after reviewing the Lancet study data that “the differences in lung function growth are mostly not statistically significant and that this makes it difficult to apply the results of the study on a quantitative level to a conclusion that the New Harmony site would lead to decreased lung development in children ages 10-18”.

The two employees interpreted the very same data on their own and reached a conclusion OPPOSITE to that of the researchers in the study, the editors of the Lancet, numerous physicians and statisticians who peer reviewed the data, and the editors of the New England Journal of Medicine who, in their Journal Watch cited this as an article of potential clinical significance. These reviewers, I should add, looked at the raw data and the statistical methodology used with no financial interest in, nor political capital invested in, any specific project. Furthermore, the confidence intervals that Sierra Research cites are taken from a table in the study showing no

significant changes in children’s lung function based upon THE AIR QUALITY PREDICTION MODELS, NOT on data showing proximity to the freeway! This single “unbiased peer reviewed” assessment forms the basis for the draft EIR’s conclusion.

5-6 { In conclusion, the draft EIR largely ignores the most current scientific peer reviewed data which indicates that there is a significant adverse impact on children’s lung development when they live within 500m of a freeway. It reaches its conclusion based upon what I feel is illogical interpretation of existing scientific data and selective use of expert opinion despite clear evidence to the contrary.

The Lancet article is a powerful epidemiological study that should make us pause in making a decision to change commercial zoning within 100m of a freeway to allow for family housing that may KNOWINGLY put children in harms way in terms of their lung development.

5-7 { I would note that years ago epidemiological data showed a clear association between cigarette smoking and lung cancer, something that few people in current times would dispute, yet for years the tobacco companies and their “experts” continued to refute the data and claim that a link didn’t exist.

I certainly didn’t do an exhaustive research study on the potential adverse health impacts of living in close proximity to a freeway and there are other studies showing that children living within 75 meters of a freeway have a 50% greater risk of asthma symptoms in a year, that there appears to be an association in children between freeway proximity and the development of respiratory infections and allergic symptoms, and even a New England Journal of Medicine article from Oct 2004 showing that even transient exposure to traffic may increase the risk of heart attacks in susceptible adults. Nonetheless, I believe that the epidemiologic evidence is clear and that there IS indeed a potential adverse health impact to living near a freeway.

5-8 { I find it interesting that the burden of proof in this case appears to be to prove that an adverse health impact exists. There is no “perfect study” and we’re left to make a decision based upon the best available data that exists today. To the average citizen, evidence based medicine/epidemiological studies are likely to carry far greater weight than a hired consultant’s expert opinion. I’m quite confident that, all scientific studies aside, if the average citizen of Davis was asked “is it smart planning to rezone commercial development to allow affordable family housing within 90 meters of a major freeway” the overwhelming response would be a resounding “NO”.

Kristopher Kordana, MD
Internal Medicine
Davis Planning Commission member

Response to Comment 5-1

See Master Response to comments in Section 4.1.

Response to Comment 5-2

See Master Response to comments in Section 4.1.

Response to Comment 5-3

See Master Response to comments in Section 4.1 and Sierra Research memo included as Commenter 16.

Response to Comment 5-4

See Master Response to comments in Section 4.1.

Response to Comment 5-5

See Master Response to comments in Section 4.1.

Response to Comment 5-6

See Master Response to comments in Section 4.1.

Response to Comment 5-7

Comment noted. The EIR recognizes that numerous health studies have identified adverse health effects from traffic and freeways.

Response to Comment 5-8

Comment noted.

COMMENTS 6 – Charles Ehrlich, Natural Resources Commissioner

-----Original Message-----

From: Charles Ehrlich [mailto:chas@enrgllc.com]
Sent: Tuesday, January 27, 2009 4:22 PM
To: SGedestad@cityofdavis.org
Cc: Wendy Carter
Subject: Re: Research/literature on the HEPA filters

Dear Sue Guedstad,

Please accept the following as my additional comments to be submitted to the record on the issue of the review of the Yolo Mutual Housing Association DEIR for the New Harmony project. Please also forward these comments to the Natural Resources Commission, Planning Commission, and the appropriate planners at the City.

Thank you,
-Chas

=====

I am very concerned about the Natural Resources Commissions decision last night to recommend that the New Harmony DEIR is in non-compliance with respect to its health impacts assessment.

6-1 { We, the NRC, were in a lose-lose situation. If we recognize the Lancet article as being authoritative, then this sets a precedent throughout the City, and a significant part of the developable land for housing (affordable or otherwise) in Davis is no longer suitable. If we ignore the Lancet article, then we are seemingly exposing all of the residents of the property to increased chances of lung disease and other terrible health maladies. The reality is that this is not a black-and-white world. We know nothing about the existing quality of life of the residents who will live in this project and we have a severe shortage of affordable housing in Davis. These are countervailing issues that should be taken into consideration. But the Lancet article is telling us that all these residents, and the children in particular, are going to have permanent lung damage...black or white. You can not deny that locating the project somewhere else in town further away from the freeway will have less impacts...unless you consider that such a project will be several years in the future. A delay in the construction of this projects subjects the 69 families that would otherwise live there to years of additional exposure to environmental contaminants from other sources, as I will discuss.

6-2 { Here are some comments which if addressed could help to come to a decision on this topic. At the next opportunity to present this project to the City Council or Planning Commission, the experts from Sierra Research and/or Dr. Cahil should be present to explain how they came up with their contradictory conclusions from the Lancet article. Last night I was at a loss to criticize the Lancet article or the Sierra Research report because I could not directly address the connection

6-2
cont. { between emissions from I-80 and the health impacts of the Lancet article. If the particulates increase exponentially--inversely with distance from the freeway-- then what is the increased particulate level at the site? How much higher is this than the background ambient level in the rest of Davis? How does this compare to living next door (down wind) from a chronic wood smoke burner with an open hearth or non-compliant wood stove? How does this compare to the sites tested in the Lancet article? Since these analyses use the same modeling algorithms, we must return to address the fundamental issue, namely, the connection between the source of the pollution (the 2.5 micron particles from the freeway), the modeling assumptions of what the concentrations will be at the site, what is the corresponding distance from the freeway as per the Lancet article, and the presumed health impacts that would result? It simply makes no sense to me that these health impacts are an independent variable from the concentrations of particles at the site, as presented. If we have accepted the modeling results of the HARP study for a variety of other purposes, I do not see why this particular project is any different.

6-3 { The potential harms, whether significant or not, need to be presented to The City to evaluate and decide upon. If there are going to be some number of additional cases of asthma as a result of locating this project in its proposed site as compared to somewhere else in Davis, does this justify having this affordable housing asset built in town NOW rather than later? Can Yolo Mutual Housing Association perhaps help to mitigate these health effects by supporting (monetarily or through in-kind services) reductions in particulate emissions somewhere else in town? Perhaps YMHA could plant Cedar trees along a significant stretch of the I-80 corridor, not just on its property...thereby reducing particulate emissions and corresponding numbers of asthma cases for people living anywhere in South Davis? How does this help the residents themselves? Since these kids will be spending a significant part of their day at the local schools and other places in South Davis, they will benefit by spending a greater percentage of their time in an environment which lower pollution levels throughout.

6-4 { I think we, the NRC, fell into the "anecdotal evidence" trap. The fact of the proximity of the project to the freeway is undeniable and irrefutable. We imagine ourselves living in this location and fear the impacts described in the Lancet article would befall us or our kids. It seems straightforward that the project could be put somewhere else where there are fewer potential health hazards, but evidently this is not the case...there are limited sites appropriate for affordable housing. This amounts to inappropriately personalizing a policy decision that has far-reaching implications. Instead, I believe, the decision should have been taken in the wider context of the affordable housing crisis in Davis, the particulate emissions crises throughout the Yolo-Solano AQMD, and the boarder issues of environmental justice and the carbon reduction interests of everyone in The City.

6-5 { Another point to address is how much this project will reduce CO2 emissions by reducing car trips for people who would otherwise travel from Woodland or West Sacramento (or further) to commute to their jobs in Davis. What is the reduction in particulates that this causes? How does the exposure on site compare to driving a car to Davis with the tailpipe emissions from the cars all around you?

What is the savings in fuel costs and the improvement in the local economy this causes as a result of having more cash to spend in town?

6-6

The City has a choice to decide on where is the appropriate location for housing. If the Lancet article is taken to be the truth, then we had better figure out what we're going to do about the enormous impacts of I-80 and Hwy 113 upon the residents within 1500 meters of these freeways. We can perhaps find a different site for the New Harmony project, but what can be done about the thousands of homes already built within the sphere of influence of the freeways?

I hope these ideas are helpful for The City to consider while evaluating the DEIR and other future proposals for housing development that could be impacted from the freeways. I would hate to see The City loose any opportunity for the kind of very low income dwellings proposed in the New Harmony project.

-Chas

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Response to Comment 6-1

Comment noted.

Response to Comment 6-2

See Master Response to comments in Section 4.1.

Response to Comment 6-3

See Master Response to comments in Section 4.1 for discussion of mitigation measures. The nexus and quantification of the potential benefit do not exist to require off-site mitigation for health impacts related to the project.

Response to Comment 6-4

Comment noted.

Response to Comment 6-5

Comment noted. It is expected that there would be benefits in CO₂ reduction associated with the project. The project is targeted for people already living or working in Davis and could result in reduced commutes. It is conveniently located to services and shopping and is close to alternate

modes of transportation. It could result in additional sales tax from new households shopping locally, but no studies have estimated the amounts.

Response to Comment 6-6

Comment noted.

COMMENTER 7 – Mark Lubell, Natural Resources Commissioner

From: Lubell, Mark

Sent: Sunday, January 25, 2009 6:53 PM

To: Linda Cano; Adrienne Kandel; Brook Gale; Charles Ehrlich; Dean Newberry; Doug Fetterly; Herman Boschken; Jennifer Holman; Kris Kordana; Stephen Souza; Sue Gedestad

Cc: Eric Lee

Subject: RE: New Harmony Draft EIR

Hi all:

I must go to a conference in Washington DC tomorrow afternoon and will miss the meeting. I have reviewed various elements of the EIR, and I have the following comments:

- 7-1 { 1. I think the air quality analysis looks okay; I'm glad the City asked for an independent assessment of the LSA analysis. I think the mitigation measure of tree buffers and indoor air quality filters seem reasonable.
- 7-2 { 2. The burrowing owl habitat mitigation measures are weak. They only plan to conduct mitigation if they find burrowing owls in the area. Regardless of current occupancy, the site is potential burrowing owl habitat, a type of habitat that continues to decrease throughout the region. I think they should be required to have some mitigation here by linking to the existing Davis reserves, either expanding the space or contributing resources to the management of the existing reserves. The Mace Ranch reserve is one example; there is nearby land that could probably be added.
- 7-3 { 3. The climate change section is also weak. They basically get out of dealing with climate change impacts by saying there are no clear standards yet established. But Davis is on the path to establishing those standards. Shouldn't we find a way to make all new development start doing something beyond making sure the development is near existing alternative transportation? For example, they say something about the potential for putting in solar power if desired—why not get solar in there right now?
- 7-4 { 4. As a side note—why aren't we just saying all new developments should meet LEED standards?

So points 2 and 3 are the main things I think could be strengthened in the EIR, and I think some more mitigation measures could be required. But other than that, the project has some good benefits because it represents an in-fill project and also contributes to Davis' regional allocation of affordable housing.

See everybody next time.

Thanks, Mark Lubell

Response to Comment 7-1

Comment noted.

Response to Comment 7-2

Proposed mitigation is the standard City mitigation requirement for another biological survey prior to any site work to verify that no burrowing owls are on site. If an occupied burrow is found measures would be taken to protect the burrow or relocate the owls and habitat mitigation would be required. Although the project site is potential burrowing owl habitat, habitat

mitigation is not required unless the site is actually occupied. This is consistent with burrowing owl mitigation guidelines from the California Department of Fish and Game (DFG). A site is considered occupied if at least one burrowing owl has been observed occupying a burrow there within the last three years. Burrowing owls were observed on an adjacent property in 2003, but no burrowing owls have been observed on the project site. Consistent with DFG guidelines, the impact to the burrowing owls is not considered significant unless the site is occupied. The proposed mitigation is considered adequate to address the potential impacts to burrowing owl habitat.

Response to Comment 7-3

Overall, the project is an efficient and dense design that helps to lower its impact on climate change. It includes a number of sustainability and green building measures incorporated into the project design that are mentioned in the EIR and help to minimize the project's impact and carbon footprint. In addition, the project will install photovoltaics to power the common areas which has been included as a condition of approval. Additional text has been added to the FEIR in Section 2.3 Text Changes.

Response to Comment 7-4

Comment does not pertain directly to the EIR. The project is expected to attain at least a LEED-equivalent level, but has not proposed certification because of the administrative costs. Additionally, the project is required to meet the City's Green Building Ordinance which requires it to meet a minimum threshold based on the Build It Green System for multi-family development. Based on an initial checklist, the project is expected to attain approximately 102 points. It would exceed the required 70-point threshold by a significant amount.

COMMENTS 8 – Sacramento Mutual Housing Association



RECEIVED

FEB 06 2009

City of Davis
Community Development

Eric Lee
Assistant Planner
City of Davis
23 Russell Blvd.
Davis, CA 95616

February 6, 2008

RE: Comments on the Draft Environmental Impact Report for New Harmony



Transforming Lives...
Building Community

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Dear Eric:

On behalf of the Sacramento and Yolo Mutual Housing Association, we are providing the attached comments and supporting documents in reference to the Draft Environmental Impact Report for New Harmony. We appreciate the opportunity to comment on this document and look forward to the City's responses. Following our comments specific to the DEIR, we also provide information concerning comments provided by the Planning Commission and Natural Resource Commission.

Sincerely,

Rachel Iskow
by Frank Caputo

Rachel Iskow
Executive Director
Sacramento Mutual Housing Association
Yolo Mutual Housing Association



On behalf of Sacramento Mutual Housing Association and Yolo Mutual Housing Association, we have the following comments on the Draft Environmental Impact Report for New Harmony.

1. Draft EIR, p. 37

The Draft EIR includes a discussion of the “Air Quality and Land Use Handbook” (“Handbook”) prepared by the California Air Resources Board (“CARB”). CARB published this handbook in 2005. Its purpose is to provide local agencies with guidance regarding potential health effects associated with locating land uses near sources of air pollutants. The handbook does not establish regulatory standards with which the City must comply. Land-use decision-making remains solely a City function.

The Draft EIR states that the handbook recommends against locating residential uses within 500 feet of a freeway. This statement does not describe fully CARB’s recommendations.

As the Handbook notes, this recommendation is “advisory and should not be interpreted as defined ‘buffer zones.’ We recognize the opportunity for more detailed site-specific analyses always exists, and that there is no ‘one size fits all’ solution to land use planning.” (Handbook, p. ES-3; see also Handbook, p. 4 [“These recommendations are advisory. Land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.”].)

8-1

According to the Handbook, studies indicate that health risks due to proximity to freeways vary from site to site. The risk diminishes quickly with distance. Local meteorology, particularly prevailing wind patterns, also plays a role. (Handbook, pp. 8-10.)

CARB recognizes that jurisdictions will inevitably consider proposals for sensitive land uses within 500 feet of a freeway. CARB recommends an approach for evaluating such proposals. As the Handbook notes, “[t]he relative risk for these categories varies greatly. To determine the actual risk near a particular facility, a site-specific analysis would be required.” (Handbook, p. 5). The Handbook’s recommendations “are designed to fill a gap where information about existing facilities may not be readily available and are not designed to substitute for more specific information if it exists.” (Handbook, p. 5.)

The Yolo-Solano Air Quality Management District (“YSAQMD”) has adopted guidance concerning the potential health risks associated with locating residential uses close to freeways. This guidance is consistent with the CARB Handbook. It states:

The ARB Handbook is useful in calling attention to incompatible land uses. However, while the ARB Handbook makes distance recommendations where possible, it has not provided specific thresholds of significance for TACs. Therefore, the following will serve as the basis for comments provided on project reviews to local jurisdictions.

Housing and other facilities accommodating sensitive receptors in new development projects that are located more than the ARB recommended distances from any source category identified in the ARB Handbook (Table 1-1) are not considered to be at elevated risk.

For projects that are located nearer a source than recommended by the ARB Handbook, the District's comments will be based on the following:

*Housing and other facilities accommodating sensitive receptors in new development projects located within the ARB recommended distance from the source categories identified in Table 1-1 of the ARB Handbook are considered to be exposed to an elevated risk. **Lead Agencies should conduct further analysis to estimate the health risk.***

(YSAQMD, Handbook for Assessing and Mitigating Air Quality Impacts (2007), p. 13 [emphasis added].)

8-1
cont.

In this case, the New Harmony project is located approximately 200 feet from the closest travel lane on I-80. Under the CARB and YSAQMD guidance, the site is within 500 feet of I-80. Neither CARB nor YSAQMD recommend prohibiting residential uses within this area. Rather, both agencies recommend site-specific analyses due to the potential for health risks.

That is precisely what has occurred. A health-risk assessment was conducted for the site, and reviewed by the Yolo Solano Air Quality Management District. The assessment takes into account local air quality and meteorological conditions. The assessment concludes the project does not pose an unacceptable health risk. The assessment is supported by a further analysis performed by Dr. Cahill. The assessment has also been peer reviewed by Sierra Research. All these experts concur that the site does not pose an unacceptable health risk due to its proximity to I-80. No other site-specific analysis exists. There is thus no site-specific evidence in the record that would support disallowing the project by virtue of its proximity to I-80.

2. Draft EIR, p. 40

8-2

The Draft EIR states that no threshold of significance exists to determine whether TAC emissions from mobile sources are significant. It is true that neither CARB nor YSAQMD has recommended a particular threshold. That task therefore falls to the lead agency – in this case, the City. The thresholds used in the HRA track the thresholds applicable to TAC emissions from stationary sources. This approach makes sense, in that there is no reason to distinguish between health risks by virtue of whether they arise from stationary or local sources. The text of the EIR should be revised to specifically state that this threshold has been used, since it is consistent with the approaches taken by LSA, Dr. Cahill and Sierra Research.

In addition, in discussing the YSAQMD CEQA guidance, the text should note that the YSAQMD recommends performing a health risk assessment for residential projects located within 500 feet of a freeway.

3. Draft EIR, p. 41

8-3 The paragraph describing the HRA does not describe fully the HRA’s methodology. While it is true that the HRA cannot quantify the impacts in terms of number of cases of asthma, the HRA can quantify the level of risk. These risk levels are generated by comparing the pollution at the site to “Reference Exposure Levels (RELs)” or the level at which a toxic substance is known to cause harm. When establishing RELs, the Office of Environmental Health Hazard Assessment takes into consideration the impacts of TACs on human health in all areas, including respiratory health. OEHHA also considers health impacts on “sensitive” populations, such as children and the elderly.

4. Draft EIR, p. 51 – Mitigation Measures

The Draft EIR identifies mitigation measures requiring the installation of air filters and the use of low and no-VOC paints and finishes in order to address air quality concerns. SMHA/YMHA believes that these measures are feasible and appropriate and therefore recommends the incorporation of these measures into the project.

8-4 In response to questions raised during the Natural Resources Commission hearing on the Draft EIR, we would like to provide further evidence supporting the efficacy of both the design considerations and the mitigation measures. As CARB notes, “[s]ite-specific project design improvements may help reduce air pollution exposures and should also be considered when siting new sensitive land uses.” (Handbook, p. 5.) New Harmony has been designed with such considerations in mind, and locates the outdoor recreation behind the north buildings. This buffer is further complimented by a dense screen of evergreen trees, primarily redwood and deodar cedar, chosen due to the recent research demonstrating the ability of these species to remove fine and ultra-fine particles from the atmosphere (Cahille et. al, 2008; see attachment 1). The analysis by Dr. Cahill included in both the Initial Study and the Draft EIR supports the efficacy of such design features, and also suggests further mitigation measures, including air filtration and upgraded HVAC systems. The mitigation measures for New Harmony include upgraded filters for the HVAC systems, as well as a mechanism for introduction of fresh air into the units without the need to open windows. The use of upgraded HVAC systems has also been documented as a satisfactory approach to mitigating air quality impacts and improving indoor air quality (MacIntosh et. al 2008 and Cahill, 2006; see attachments 2 and 3).

At the NRC, questions were also raised about whether residents will use these systems, and whether the residents will be able to afford the higher utility bills that will result from running them. We offer the following responses to these concerns:

- (1) Residents of New Harmony will be provided with the opportunity to prevent unhealthy pollution from entering their home. Like any other behavior that can impact health, residents will exercise their right to free choice in making this decision. SMHA and YMHA offer residents a wide array of information about health issues, and information about the potential health impacts from traffic pollution will be provided to residents. Indeed, SMHA and YMHA do not oppose

8-4
cont.

modifying the mitigation measure to include the requirement that residents be notified of the importance of operating the HVAC filter system. On-site maintenance staff will also be responsible for ensuring that the filters are changed as recommended by the manufacturer.

- (2) Operating the filtration system may increase utility costs. These costs, however, will not be borne by residents. Under new Tax Credit Allocation Committee rules, a building-specific analysis of energy costs is required. These costs are then reduced from the rent that can be charged on the units, so that the total housing costs (including utilities) equal no more than 30% of household income. As a result, if utility costs are increased, then rents go down by an equivalent amount. The cost of higher utility bills will be borne by SMHA and YMHA, rather than by residents, since the costs of running the filtration system will be included in rent structure.

8-5

5. Draft EIR p. 70 – No Project Alternative

The Draft EIR concludes that, under the “No Project Alternative,” no air quality health impacts will result. We disagree. “No project” is not the same as “no development.” Rather, the “no project” alternative consists of development of the site in view of existing zoning and infrastructure. (See CEQA Guidelines, § 15126.6, subd. (e).) As the Draft EIR elsewhere notes, the current General Plan designation and zoning authorize both business park and residential uses. (See Draft EIR, pp. 11-12.) The “no project” alternative should therefore assume that the site is built out in accordance with these existing plans. For this reason, to the extent the project will result in health impacts, so will the “no project” alternative. The description of “Alternative #1” should be deleted since it is a version of the “no project” alternative that is inconsistent with the CEQA Guidelines.

Moreover, under the “no project” alternative, affordable housing will not be developed on the site. Low-income families would, therefore, have to reside elsewhere. The supply of affordable housing available to low-income families is extremely limited; it is inaccurate to imply that these families will simply go away.

To the extent the proximity of residences to freeways is a concern at this site, the same is true of much of the City of Davis, and the greater Sacramento region. That, too, is part of the backdrop against which this project should be evaluated. An accurate analysis of the “no project” alternative would take into account this fact.

8-6

6. Draft EIR p. 71 – Alternative #4

The Draft EIR states Alternative #4 – the “off-site” alternative – would be consistent with the project’s objectives for “affordable housing and efficient use of City funds.” We disagree.

Over \$450,000 has already been invested in predevelopment work for New Harmony. These funds would be lost completely, and an equal amount would be required to study, design and plan for housing at the new site. In addition, \$900,000 has been invested in the land. There

is no evidence that the city would be able to sell the land for commercial use in the near future. Indeed, the Draft EIR acknowledges that, although the site is designated for Business Park uses, no such uses have been proposed.

Even if the owners of the Alhambra site could be persuaded to sell, the acquisition and development of the site for affordable housing is infeasible. The Alhambra site is already designated for “Neighborhood Retail” uses. The cost of acquiring this land would reflect this designation and, as a result, would be far greater than the purchase price of the New Harmony parcel. The City should investigate and disclose assessed property values, on a per acre basis, for retail land; this information will demonstrate that the acquisition of the Alhambra site is financially infeasible, particularly in light of the fact that the City already owns the New Harmony site.

8-6
cont.

The Alhambra site is currently zoned and entitled for commercial development, and converting the use to multifamily housing would require a re-zone and General Plan Amendment. This process would require environmental analysis under CEQA, and would likely take several years. Even if the funds could be found, the land purchased and the project entitlements approved, this alternative would delay the creation of new affordable housing for at least two more years. There is ample evidence that affordable housing is needed in Davis now. The YMHA waiting list includes over 400 households; approximately 1,200 workers at these income levels commute to Davis because housing is too expensive; and there are 4,436 very low income households in Davis paying over 50% of household income in rent. With the economic crisis, the need for affordable housing will only continue to increase. In the absence of substantial evidence that there will be a health risk present at the New Harmony site, it would be a disservice to these families to delay the production of affordable housing.

7. Draft EIR p.72 – “Environmentally Superior Alternative”

The Draft EIR states that the Alhambra site is the “environmentally superior” alternative. As noted above, the Alhambra site is infeasible. In any event, the EIR contains insufficient information to support this conclusion. The Alhambra site is adjacent to active agricultural fields. The proximity to active agricultural operations creates the potential to expose residents to fugitive dust and pesticide drift emissions. The risks associated with these pollutants should be assessed in a Health Risk Assessment, and then compared to the New Harmony HRA, before concluding that the Alhambra site is “superior.” Notably, the New Harmony HRA concludes that health risks are insignificant.

8-7

8. Draft EIR Table 2.1 -- Summary of Impacts and Mitigation Measures

Table 2.1 states: “The proposed project would expose potential residents to elevated health risks associated with vehicle emissions from the nearby freeway.” This statement is misleading because it suggests that the health risk is significant. The site-specific HRA prepared for the New Harmony site concludes that risks are insignificant. Dr. Cahill and Sierra Research have both reviewed this conclusion and agree with it. No other site-specific analysis has been prepared.

8-8

8-8
cont.

In light of the analyses prepared by LSA, Dr. Cahill and Sierra Research, we recommend revising this statement to read: “The proposed project would potentially expose residents to elevated levels of pollutants associated with vehicle emissions from the nearby freeway. The health risk associated with this exposure is less than significant.”

8-9

Members of the Planning Commission and the Natural Resources Commission have expressed skepticism regarding the ability of air quality dispersion modeling to adequately predict pollutant levels existing at a site. No such controversy exists, however, within the scientific community. All three air quality experts share the opinion that the level of pollutants at the site is not significantly higher than that which would be found anywhere else in the City of Davis. There is also no dispute within the scientific community that the health impacts associated with freeways are attributable to particulate matter. Thus, while the project’s proximity to the freeway does create the potential for negative health impacts, there is no evidence that such impacts will be present at the site, either through evaluating the level of particulates, or through the health risk assessment conducted for the project. The HRA was conducted according to the methodology established by the air resources board and the Office of Environmental Health Hazard Assessment. The Office of Health Hazard Assessment, in establishing their methodology, incorporates all known impacts. While the methodology has not been updated since the publication of the Lancet study in 2007, other evidence linking exposure to freeway exhaust to respiratory impacts in children has been available since at least 1997. (See, e.g., “Air pollution from truck traffic and lung function in children living near motorways,” By Brunekreef, B. et al (Epidemiology. 1997; 8:298-303, cited in CARB Handbook.)

Although the evidence indicates that health risks at the site will not be significant, SMHA and YMHA recognize community sensitivity to this issue. For this reason, even though no mitigation measures appear to be necessary, SMHA/YMHA does not object to incorporating the identified mitigation measures into the project.

9. Concerns Expressed by Planning Commissioner Kordana

8-10

At the Planning Commission’s hearing on the Draft EIR, Commissioner Kordana stated that, in his view, the analyses prepared by LSA, Dr. Cahill and Sierra Research did not address the potential adverse impact on adolescent lung development described in the 2007 Lancet article by Gauderman et al. The Gauderman study is an epidemiological analysis of lung development in adolescents. The article concludes that there is a correlation between lung development and proximity to freeways. The Gauderman does not address site-specific conditions in Davis. Rather, the study focuses on epidemiological data gathered in the Los Angeles area.

We recommend that the City refer Dr. Kordana’s comments at the Planning Commission hearing to qualified air quality experts for their analysis and response. Dr. Kordana has stated that any air quality experts that are paid to provide such analysis are inherently biased, and therefore should be ignored. This approach is unfair and unworkable. Experts are retained all the time to offer their input regarding the potential impacts of a project in an area within their range of expertise. We agree that experts need to be qualified, and to have solid reputations in their field. LSA, Dr. Cahill and Sierra Research all meet that standard.

In considering Dr. Kordana's comments, we urge the City to consider the implications of the approach he appears to be endorsing. According to Dr. Kordana, the Lancet study concludes that lung development in adolescents is inhibited if they live within 500 meters of a freeway corridor. Dr. Kordana dismisses meteorological or air quality data specific to the New Harmony site or the Davis region. Thus, his concern would extend to any residential development located within 500 meters of the I-80 corridor. In his view, any residential development within this corridor poses a significant, adverse, unmitigatable health risk.

In the event the City adopts the approach advocated by Dr. Kordana, then we recommend that the City review the inventory of sites identified in the City's Housing Element. All those sites located within 500 meters of I-80, or another heavily travelled roadway, should be removed from the inventory of sites suitable for housing.

8-10
cont.

We do not endorse Dr. Kordana's view. We do believe, however, that if this approach is adopted by the City, then the City must confront the implications of disallowing residential uses within 500 meters of I-80, including its implications under State Housing Law.

We have investigated whether any other cities or counties in the State have applied a similar standard to health risks associated with proximity to freeways. As noted above, the CARB Handbook recommends locating residential uses more than 500 feet from freeways *or* performing a site-specific analysis (as occurred in this case).

We did identify one jurisdiction that has adopted an ordinance addressing this issue. In November 2008, the City and County of San Francisco adopted Ordinance No. 281-08 (copy included as attachment 4). Prior to the adoption of this ordinance, the Program on Health, Equity and Sustainability (a program of the City and County of San Francisco and the San Francisco Department of Public Health) published a *Handbook on Assessment and Mitigation of Air Pollutant Health Effects from Intra-Urban Roadways*. This publication discussed the literature documenting potential health risks from particulate pollution, and notably, includes a reference to the Lancet article. The ordinance requires the preparation of an air quality assessment, and if PM 2.5 concentrations are above specified levels, the installation of special ventilation.

The planning process for New Harmony has followed a procedure similar to that used in San Francisco. In this case, a site-specific air quality assessment has been performed, the Draft EIR has included a mitigation measure requiring the installation of ventilation, and SMHA/YMHA has agreed to this measure.

We appreciate the opportunity to provide these comments, and look forward to the City's response.

Response to Comment 8-1

Comment noted.

Response to Comment 8-2

The EIR notes that the HRA references air district thresholds for stationary sources for TACs. Under the discussion of local regulations for YSAQMD, it also references the ARB handbook for siting sensitive uses as guidance which includes performance of the health risk assessment for projects located within 500 feet of a freeway.

Response to Comment 8-3

Comment noted.

Response to Comment 8-4

Comment noted. The air quality mitigation measure has been modified for use of no-VOC paints. Upgraded filters are required consistent with recommendations of Dr. Cahill. Supporting documents provided by the Commenter are included in Appendix 6.1

Response to Comment 8-5

Comment noted. The “No Project” Alternative #1 assumes no project will be built on the site for the foreseeable future. The “No Project” Alternative #2 assumes some type of development will occur. The intent is to provide sufficient differences for the sake of comparison with the proposed project.

Response to Comment 8-6

Comment noted. There are a number of possible scenarios with “Off-Site Project” Alternative #4 and investments already made into the existing project would be lost. Aside from the cost of the land and other unknowns, it is assumed that project costs for development of an alternative site would be done in the most efficient manner possible and is theoretically feasible.

Response to Comment 8-7

Comment noted.

Response to Comment 8-8

The City as lead agency has the discretion to determine the significance of an impact. The EIR determined that the impact is potentially significant. See Master Response to comments in Section 4.1.

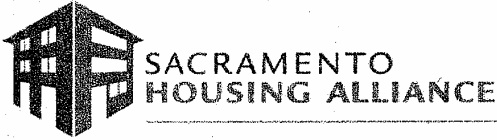
Response to Comment 8-9

Comment noted. Supporting documents provided by Commenter are included in Appendix 6.1

Response to Comment 8-10

Comment noted. See Master Response to comments in Section 4.1.

COMMENTER 9 – Sacramento Housing Alliance



P: 916.455.4900 | F: 916.455.4917

February 6, 2009

Eric Lee
 Assistant Planner
 City of Davis
 23 Russell Boulevard
 Davis, CA 95616

Re: EIR findings for New Harmony Site

Dear Mr. Lee:

The Sacramento Housing Alliance (SHA) is a membership organization comprised of housing advocates, homeless service providers, non-profit and for profit developers, civil rights activists and other community leaders. SHA has advocated for quality, safe, decent, accessible and affordable housing throughout the greater Sacramento region, including Yolo County, for 20 years.

We respectfully submit the following comments regarding the Draft EIR for New Harmony.

Draft EIR p. 70 – No Project Alternative

The Draft EIR concludes that, under the “No Project Alternative,” no air quality health impacts will result. We disagree. Under the “no project” alternative, affordable housing will not be developed on the site, and low-income families would, therefore, have to reside elsewhere. The supply of affordable housing available to low-income families is extremely limited in the city of Davis. The vacancy rate for rental housing dropped below 1% in 2008, and according to the City of Davis Housing Element Update approximately 1,200 workers earning very-low and extremely-low incomes commute to Davis because housing in the City is too expensive. To the extent the proximity of residences to freeways is a concern at this site, the same is true of much of the greater Sacramento region, thus we disagree with the conclusion that by not building New Harmony, the city would be protecting low income children from pollution in the environment. As we are not aware of any jurisdiction that has implemented a ban on residential building near freeways, it is very likely that some of the low-income families who would be living at New Harmony are currently living in close proximity to freeways and major secondary roads. It is unlikely that these families are benefitting from the mitigations that New Harmony residents will enjoy, including a screen of evergreen trees located in between the housing and the highway, upgraded HVAC systems, and healthy building materials. Finally, full

9-1

www.sachousingalliance.org

1800 21st Street, Suite 100 | Sacramento, CA 95811



SACRAMENTO
HOUSING ALLIANCE

P:: 916.455.4900 | F:: 916.455.4917

9-1
cont.

consideration of the "No Project Alternative" would take into account the indoor environments that potential residents of New Harmony are likely to be living in at the moment. Many of the potential residents are likely currently living in substandard housing, exposing children to unhealthy indoor air due to mold, poor ventilation, pest problems, and other conditions associated with poor quality housing.

Concerns Expressed by Planning Commissioner Kordana

9-2

A representative of the Sacramento Housing Alliance was present at the Planning Commission's hearing on the New Harmony Draft EIR and listened to the concerns expressed by Commissioner Kordana. According to Dr. Kordana, the Lancet study concludes that lung development in adolescents is inhibited if they live within 500 meters of a freeway corridor. As Dr. Kordana dismisses meteorological or air quality data specific to the New Harmony site or the Davis region, his concern would extend to any residential development located within 500 meters of the I-80 corridor. In considering Dr. Kordana's comments, we urge the City to consider the implications of the approach he appears to be endorsing. In the event the City adopts the approach advocated by Dr. Kordana, this approach would substantially alter the inventory of sites identified in the City's Housing Element. All sites located within 500 meters of I-80, or another heavily travelled roadway, would be removed from the inventory of sites suitable for housing. Given the already limited supply of land available for multi-family development available in Davis, it would be very difficult for the city to meet its Regional Housing Needs Allocation (RHNA) obligations with such a policy in place. In addition, the City must confront the implications of disallowing residential uses within 500 meters of I-80, including implications under State Housing Law.

We thank you for your consideration.

Sincerely,

Shamus Roller
Executive Director

Response to Comment 9-1

The “No Project” alternative was conducted as an analytical exercise as required by CEQA. The intent was to provide a contrast to the proposed project and to provide a limited discussion. Consequently, discussion of the impacts from the No Project alternative was focused on the potential on-site impacts only. However, it is acknowledged that there are limited housing options for low-income households in Davis and that potential indirect impacts of the alternative were not discussed. They could include similar or greater health risks to potential low-income residents who would otherwise have to live elsewhere, but this is not a certainty.

Response to Comment 9-2

Comment noted. Comment about the supply and location of land for multi-family housing and the implications for City are policy questions and do not pertain directly to the EIR. See also Master Response to comment.

COMMENTS 10 – Tori Bovard

February 6, 2009

City Council
 Planning Commissioners
 Eric Lee/ Community Development Staff
 City of Davis
 23 Russell Blvd.
 Davis CA 95616

RE: New Harmony EIR

Dear City Staff, Planning Commissioners and City Council Members:

I am writing this letter to voice my concerns regarding the Environmental Impact Report (EIR) done for the proposed New Harmony project in South Davis.

The City Council requested an EIR in response to new evidence which had been presented to the Planning Commission and the council regard the health effects of living in close proximity to a freeway on developing children's lungs. At both hearings, Dr. Kristopher Kordana, a planning commissioner and physician, presented a summary of a study done by Dr. James Gauderman which was published in *The Lancet*, one of the most prestigious medical journals in the world. The study specifically found that living within 500 meters of a freeway significantly and permanently affected the development of children's lungs. This is a critical piece of evidence to consider in a planning decision such as New Harmony, as the project was created with families with children in mind.

Quite frankly, although I am no air quality expert, I have *serious* doubts about the objectivity of the EIR. While at the first hearing, environmental data was discussed was presented by a consultant hired by the applicant, at the most recent hearings regarding the EIR, all we were presented was "more of the same."

10-1

While the consultants who prepared the EIR were asked to consider the data from the *Lancet* study in their report, they instead were dismissive of it entirely--ignoring the major point of the study, and that which had been clearly described by Dr. Kordana. It was glaringly obvious that those preparing the report were either unable to understand the *Lancet* study, or had some other agenda in supporting the previous report. As one of my neighbors said, "I smell a rat."

The authors of the *Lancet* study are some of the most well-known researchers in their field, and the *Lancet* is one of the most respected medical journals in the world. The *Lancet* is a peer-reviewed journal. This means that the methodology of the study is subject to intense scrutiny before it is ever considered for publication. However, the consultants who prepared the EIR questioned the findings (even citing an elementary statistics book in their report), indicating that they were hardly significant. In fact, the findings were **robust**, even for children living three times the distance from the freeway than New Harmony children would!

The EIR and the letter by Sierra research completely missed the main point of the *Lancet* study by continuously citing the need for site-specific data, and by stating that there is only a minimal amount of pollution existing on the proposed site. In the letter written by Sierra Research, it is stated,

"None of the criteria pollutant data reported by LSA are indicative or suggestive of a pollution "hot spot," but rather reflect typical, regional concentrations for Lower Sacramento Valley. Here it is obvious that they have clearly missed the POINT of the *Lancet* Study. Again, the findings were robust—and were **independent of regional air quality**. In fact, Gauderman used data from several regions, some of which were in areas of significantly less traffic than Interstate 80 here in Davis—however, in their presentations to the commissioners and the council, they ignore this fact. They also elude to the fact that the study was conducted in Southern California where pollutions levels are higher

10-1
cont.

and hence not applicable to Davis. Again, the finding was present—even in areas with car counts much lower than here on Interstate 80.

Further, the EIR continues to clamor on the potential of cancer risk, again missing the point of the *Lancet* study entirely. The authors of the *Lancet* study instead studied something even more important than cancer risk: their study focused on lung development in children. Lung development was found to be arrested in children in the study who lived within 500 meters of a freeway—something that sets them up for a lifetime of respiratory illnesses. The letter by Sierra Research even goes as far as dismissing the measurement of lung function and development as an indicator of respiratory health in children—something any medical doctor would find ridiculous. It even goes as far as stating that “None of these physical measures of lung function should be confused with lung cancer and any other respiratory disease.” This, to me, sounds just desperate. Do they truly want you to believe that lung development is not important until someone gets cancer?

Air quality consultants use computer models to essentially predict future health risks. However, their data is just that—predictions based on computer simulations. On the other hand, the *Lancet* study goes beyond theory. It provides evidence-based conclusions—indicators not only of what COULD happen, but rather what IS happening to developing children’s lungs. To be dismissive of that would be reckless.

Clearly there is an issue here that goes beyond that of the New Harmony complex. As the EIR indicates, there are other locations which would be better for residents. However, this is truly an environmental justice issue and an issue that needs to be addressed for future planning as well. Like many other municipalities, Davis is being asked to subject its lowest income citizens to the health risks of living just a few feet from a busy interstate. Rezoning this property to high density housing would not just be wrong—it would be truly outrageous.

Thank you for your time and consideration.

Tori Bovard
802 Christie Ct.
Davis CA 95618
(530) 219-3214

Response to Comment 10-1

See Master Response to comments in Section 4.1 and memo from Sierra Research included as Commenter 16.

COMMENTS 11 – Dan Brugger

From: Brugger Dan
Sent: Wednesday, January 14, 2009 4:12 PM
To: Michael Webb; njoku@cityofdavis.org
Subject: Opposition to New Harmony project

Please forward to the Davis Planning Commissioners

Wednesday, January 14, 2009

Dear Commissioners,

I am writing in opposition to the proposed New Harmony project that is undergoing re-review tonight. I was not aware that the proposal was still being reviewed as there was little announcement of tonight's meeting.

I am a physician and I am concerned about the potential health impact on occupants of the planned development. There is a wealth of medical literature that points to potential health risks living near a highway. These studies show, with statistical significance, that there is an association between proximity to highways and disease states such as cardiovascular disease, allergy, asthma, low birth weight and premature delivery and impact on lung development. I have attached a PDF from a symposium entitled "Moving Forward - " which contains abstracts and article summaries of some of the representative literature at the end of this letter.

11-1

I am also concerned that, at the last review of this proposal, city staffers have used a very narrow view of health impacts to living near a major highway such as increases in cancer risk. They also used generalized air quality assessments for the region which, as many studies referenced below, has been shown inadequate to predict potential health risks.

My family came to Davis because it is a wonderful place to raise a young family. We should insure that all current and future residents have the same opportunity. This includes living in housing that will not make them sick. Allowing this development to be built 90 meters from Highway 80 and exposing people to KNOWN health risk is unconscionable if there are other locations that could be used. The plan itself is good. The need for affordable housing is obvious. The location is wrong and potentially unhealthy to its occupants and should be denied.

Sincerely,

Dan Brugger, MD, MPH

855 Donovan Court

(530) 867-2278

Response to Comment 11-1

See Master Response to comments in Section 4.1. The summaries and abstracts attached to the comment letter are included as Appendix 6.2.

COMMENTS 12 – Sandra Wells

From: gnswells@comcast.net
Sent: Sunday, January 18, 2009 2:52 PM
To: Eric Lee
Subject: Re: New Harmony Draft Environmental Impact Report

Date: January 15th, 2009

Attn: Eric Lee, Assistant Planner
City of Davis, Community Development Department
23 Russell Boulevard. Davis, CA 95616

Project Title: New Harmony Apartment Community

Dear Eric,

This will be the second letter I have written in regard to this development.

12-1 { As you are aware this proposed development borders another subsidized complex known as Owendale. I believe there is a need for affordable housing in Davis, but I do not believe it should dominate the neighborhood. These types of developments should be located evenly through out the City not inserted where they dominate the neighborhood.

12-2 { Secondly, it is reasonable for the homeowners in the neighborhood to expect the City to honor the General Plan; it is not morally or ethically acceptable to change the zoning from light industrial to multi family apartments. I would not have purchased a home in this area if the Master plan showed apartments throughout the neighborhood. Lastly, the air quality issue and

12-3 { how it affects developing lungs has been discussed ad nauseam. I find it reprehensible that the City is a proponent of a development that’s borders the I-80 corridor. This location is within a radius that has been scientifically proven to damage children’s respiratory system. I realize staff hours and developer’s monies have been expended on this project, but when a proven health risk exists it should trump the nominal cost spent. I would like to see the project come to fruition, just not at the expense of the future residents.

Regards, Sandra Wells

Residence: Albany Avenue.

Response to Comment 12-1

Comment noted. Comment is project-related issue.

Response to Comment 12-2

Comment noted. See response to Comment 12-1 above.

Response to Comment 12-3

See Master Response to comments in Section 4.1.

COMMENTS 13 – Cathy & Christian Renaudin

From: Cathy & Christian Renaudin
Sent: Tuesday, January 13, 2009 8:05 PM
To: Eric Lee
Cc: susan shepps
Subject: Re: New Harmony Draft Environmental Impact Report

13-1 { I thought this project was turned down for this location. City council decision.
WHY are we spending our tax dollars to continue to investigate on the adequacy of this inappropriate site for the Harmony project?

13-2 { Is this DEIR a research project? Common sense and health evidence suggest that we should no longer support housing projects that close to the freeway. In times of economic crisis, can't we just find another site instead of trying to demonstrate the obvious.

Please tell me what is new.
Last time I checked the freeway is still there.

Christian Renaudin

Response to Comment 13-1

Comment does not pertain to DEIR or CEQA issues. The Davis City Council determined that an Environmental Impact Report should be prepared for the project. The applicant is responsible for paying for the EIR and project costs.

Response to Comment 13-2

The DEIR is being prepared in accordance with the CEQA to evaluate and present the environmental impacts of the project. See Master Response to comments regarding air quality and health effects in Section 4.1.

COMMENTER 14 – Richard Seyman

645 Coolidge St.
Davis, CA 95616
February 6, 2009

RECEIVED
FEB 06 2009
City of Davis
Community Development

RE comments on the DEIR for New Harmony Affordable Housing Project

Dear Mayor and Council Members,

(a member of City of Davis Planning Commission) RS

I want to urge you to approve the New Harmony affordable housing project proposed by Sacramento Mutual Housing Association.

I write both as a citizen and as an environmental activist with the regional coalition, the Environmental Council of Sacramento (ECOS).

As is made clear in one of the DEIR supporting documents from UC Davis air quality expert retired Professor Thomas Cahill:

“mitigation...has the proven potential to make ...indoor air...much cleaner than even the regional outdoor air for very important pollutants, including very fine particles and ozone. Mechanically ventilated buildings provide additional options, so that the indoor air can essentially be as clean as one wishes.”

The plans for New Harmony include excellent indoor mechanical ventilation systems. So there is really no issue with regard to that aspect of indoor air quality for the project.

14-1

The **only** issue is therefore that of **outdoor** air quality. That continues to be the apparent heart of the controversy. Since this issue has been holding up the approval of New Harmony for more than six months now, I want to address it at some length.

Even though the Lancet study on air quality showed evidence of a correlation with reduced lung capacity among 8-18 year old residents living within 500 meters down wind of freeway (and the neither the original nor the redone EIR addresses this issue of lung development), **there are other substantial mitigating air quality factors which, I believe, lead to a probable conclusion that, on average, long-term air quality is very likely be better at the New Harmony site than at the great majority other affordable housing sites in our region** (and may well be only very marginally worse than the air quality in many other parts of Davis averaged over the course of a typical year). A (partial) list of these factors includes the following:

| | New Harmony | other low-income sites |
|---|--------------------|-------------------------------|
| Freeway proximity | yes | likely |
| Secondary road proximity | no | very likely |
| Freeway site & prevailing wind | mostly upwind** | up & downwind |
| Best indoor air filtration system | yes | unlikely |
| Best emission barrier trees | yes | unlikely |
| Close to industrial/commercial emissions | no | often |
| Commute to & from elementary school | low traffic | high traffic |
| City provides schools & parks with many Organized outdoor activities for youth (away from home sites) | very many | fewer |

14-1
cont.

**Upwind of freeways pollutants are less concentrated at 40 meters than they are at 500 meters downwind. So on about 2/3rds of the annual days (and nearly all of time from May through September when children are most likely to spend extended time outdoors) the air quality is likely better at the New Harmony site than it is in parts of central and east Davis.

Finally, the worst type of pollution—fine to ultra fines particulates--will be reduced to one third its present levels by new truck emission standards being implemented in the next four years.

But the health effects any residential site extend beyond its mere static location. Living at New Harmony will mean living within a complex web of community environments, resources and risks and benefits. Those have to be part of the equation too for an accurate overall assessment.

The California Air Resources Board, reports that, although we spend only about six percent of our day commuting, during that time we receive over half of our exposure to ultra-fine particles.

So in assessing children’s exposure to air pollution their commute to and from school and other daily activities is likely to be at least as large a factor as the location of their home residence. In this aspect New Harmony is far superior to the great majority of low-income housing sites in the region. From New Harmony there are bike paths all the way from the back door to the elementary, junior high, and high schools the children will attend. Most of the way, these paths are entirely separated from the streets, which not only makes them several magnitudes safer (from traffic collisions), it also means their exposure to traffic-generated air pollution is reduced to a very small fraction of what it would on the streets and roads of the region, especially compared to those of major urban

corridors such as Watt Avenue, which most often serve as the route from a neighborhood street to an area school.

14-1 cont. Professor Cahill outlines one of the most significant findings of the studies of heavily traveled secondary roads (Watt Avenue, ...) in Sacramento as follows: Higher very fine/ultra fine impact by 65,000 vehicles/day (1.5% diesel) than by freeway I-5 (170,000 vehicles/day, 10% diesels) – potential reasons....

- Less distance between roadway & receptors,
- Lack of barriers between roadway & receptors,
- Stop and go traffic
- Possibly dirtier diesels

14-2 I feel I am personally very fortunate to reside in a beautiful west Davis neighborhood, filled with mature trees, parks and schools for the enjoyment of myself, my wife and my step-children (and our two dogs).

Thirty years ago, as a single parent, I first moved to Davis (an apartment on I St.) to raise my own children here, recognizing that there were a number of advantages for them here that were not so available in many other communities. With only a single-income and a semi-skilled, blue-collar job (albeit one at the University), it was a financial struggle to maintain a residence here. But I feel it was well worth that struggle. I believe every child in our entire region deserves the level of quality of life that my children had here in Davis.

As is well known, Davis has made some notable efforts to provide a very modest number of very good affordable units over the last decade or two. But notwithstanding those laudable projects, the bottom line continues to be: a great many families with very limited income who have young children and who would choose Davis (just as I did) can't find affordable housing here and have no choice but to go elsewhere, where such housing is more available.

The real issue of air quality at the New Harmony site is not a question of how the air quality of that site compares to *ideal* air quality. The real issue is how it compares to the air quality of the **other housing sites that would very likely house those low-income families if New Harmony is not built.**

14-3 From 2005 to 2008 I worked in Sacramento County as a community organizer for Paratransit, Inc., a non-profit which provides the door-to-door rides for disabled and very elderly residents who cannot use fixed-route transit. Much of my work involved the neighborhoods which had concentrations of more transit-dependent households, i.e. very low-income households. So I developed a fairly comprehensive picture of the locations of the most affordable housing in the region.

There are virtually no surprises in this picture. The overwhelming majority of low cost housing is located in rental units along major urban

corridors, or “**secondary roadways**,” i.e. four-lane and six-lane streets running between the region’s major highways and freeways.

To name just one of several dozen such corridors in our region, Watt Avenue is both one of the best known and was also specifically the object of a recent air pollution study, cited in documents included in the DEIR for New Harmony project.

The personal question that Council members should ask themselves is not whether they would want their own child to live and play at New Harmony but rather whether they would choose to deny their own child that option and instead have their child live outside of Davis, in an apartment along Watt Avenue, or another comparable urban rental location.

14-3
cont.

Originally, many of south Davis neighbors objected to the project, saying they feared it would lead to increased crime in their neighborhood. Subsequently, when a neighbor brought forward the Lancet health, the focus of the neighbors’ objections shifted entirely to a concern over the health of the prospective young renters.

But real health is never a single issue question. All health factors have to be considered in a balanced way to achieve the best outcomes.

A thorough review of ***all** the likely relevant potential major health factors for the prospective resident youth of the New Harmony project suggests that if we are truly concerned about these young people we will **approve** the project. Denying the project would almost certainly increase the overall health risk factors for these low-income, potential residents of our city.*

I truly hope that the City will do the right thing and will allow these prospective children the opportunity for the healthier, happier, more fulfilled childhood and adolescence that New Harmony would make possible. Let’s allow these young people the opportunity to become members of our fortunate and caring community.

Sincerely,



Richard Seyman. Co-Chair

Transportation, Air Quality and Climate Change Committee
Environmental Council of Sacramento

rseyman@mindspring.com
530 756-6252

Response to Comment 14-1

Comment noted. Comment supports air quality studies provided for the project.

Response to Comment 14-2

Comment noted. Comment notes additional benefits of the project compared to other possible affordable housing locations

Response to Comment 14-3

Comment noted. Comment notes benefits of the project compared to other possible affordable housing locations

COMMENTS 15 – Legal Services of Northern California

LEGAL SERVICES OF  NORTHERN CALIFORNIA

YOLO COUNTY OFFICE 619 NORTH STREET WOODLAND CA 95695
(530)662-1065 WEST SACRAMENTO (916) 447-5798 FAX: (530) 662-7941
EMAIL: WOODLAND-OFFICE@LSNC.NET WEB: WWW.LSNC.NET

February 4, 2009

Received
City Clerk's Office
FEB 11 2009
City of Davis

Council of the City of Davis
Mayor Ruth Asmundson
Mayor Pro Tempore Don Saylor
Councilmember Sue Greenwald
Councilmember Lamar Heystek
Councilmember Stephen Souza

Attn: Zoe Mirabile, City Clerk

Re: Application of New Harmony Affordable Apartment Community

Honorable Mayor, Mayor Pro Tempore and Councilmembers:

We submit this letter on behalf of Yolo Mutual Housing Association (YMHA), who, in partnership with Sacramento Mutual Housing Association (SMHA), has been diligently working over the past several months to secure approval of the proposed New Harmony Affordable Apartment Community (New Harmony). We also write to express our concern for the lower-income families who reside and/or work in Davis, who are in need of decent and affordable housing located in Davis and whose needs would be addressed by the New Harmony development.

We are greatly concerned over what we perceive as the City's belief that it may deny this project on health and safety grounds, solely on the basis of an article in the March 6, 2007 issue of *The Lancet* on child lung development and proximity to freeways based on southern California data (the *Lancet* article). Such reliance is seriously misplaced in our view and would likely violate the Housing Accountability Act, and other state laws intended to prohibit discriminatory treatment of housing for lower-income households.

The circumstances under which a jurisdiction may disapprove a housing development for lower or moderate-income households based on public health and safety impacts are quite narrow. Housing Accountability Act, California Government Code Section 65589.5. Such disapproval must be "based upon substantial evidence in the record" that "[t]he development project . . . as proposed would have a specific, adverse impact upon the public health or safety" meaning "a significant, quantifiable, direct and unavoidable impact, based on objective, identified written public health or safety standards, policies or conditions as they existed on the date the application was deemed complete." Section 65589.5(d)(2).

The non-site specific *Lancet* article based on a study conducted in Southern California simply fails to meet this strict and narrow standard, particularly in light of the site-specific third party health assessments in the record establishing that the project poses no significant health risk.

15-1

Page Two
February 4, 2009

15-1
cont.

The health and safety evidence in the record overwhelmingly supports approval of the project, the City lacks a valid housing element and the City approved upper-income residential developments in Davis within 500 meters of a freeway just prior to YMHA/SMHA's submission of the New Harmony application. Given these facts, collaboration with the City will no longer be a viable mechanism for moving the New Harmony project forward if the City denies approval of the New Harmony proposal on March 3rd.

We offer the foregoing comments in addition to, and without waiving, any other objections to the Council's action and without prejudice to our right to supplement these comments further and to enter into the record additional evidence that the Council's denial of this project would be unlawful. Indeed, we intend to supplement this letter with additional documents prior to the March 3rd Council meeting.

Respectfully submitted,



Alys Meyer
Managing Attorney, Yolo County Office
Legal Services of Northern California



Mona Tawatao
Regional Counsel
Legal Services of Northern California



Brian Augusta
Staff Attorney
California Rural Legal Assistance Foundation

cc: Harriet Steiner, Esq., City Attorney
Bill Emlen, City Manager, City of Davis
Katherine Hess, Community Development Director
Eric Lee, Assistant Planner

Response to Comment 15-1

Comment noted. Comment is project-related and does not directly pertain to the EIR.

COMMENTER 16 – Sierra Research

February 6, 2009


**sierra
research**

 1801 J Street
 Sacramento, CA 95811
 Tel: (916) 444-6666
 Fax: (916) 444-8373
 Ann Arbor, MI
 Tel: (734) 761-6666
 Fax: (734) 761-6755

Memo to: Eric Lee
 Planning Division
 Community Development Department
 City of Davis

From: Gary Rubenstein
 Eric Walther

Subject: Comment on New Harmony Project DEIR
 Further Review of Lancet Study of Child Lung Development and its
 Relevance to the Proposed New Harmony Project

The purpose of this comment is to provide a further review of the Gauderman et al¹ study of the effect of freeway emissions on child lung development published in *The Lancet*, its relevance to potential public health impacts on children and other residents in the affordable housing New Harmony Project (Project) proposed to be built near Interstate 80 (I-80), and the appropriate role of the study's findings in the Environmental Impact Report (EIR) on the Project. This memorandum supplements our previous analysis, presented to the City of Davis and to the Sacramento Area Council of Governments on December 19, 2008.

Comment
 16-1

The Project is a multi-family unit residential development proposed by the Yolo/Sacramento Mutual Housing Association to be built in Davis, California. Concerns have been raised that this residential development is proposed to be located within 500 feet of I-80. In the context of evaluating potential environmental impacts for the purpose of complying with the California Environmental Quality Act (CEQA), the Air Resources Board (ARB) recommends² not placing residences within 500 feet of a major roadway unless a health risk assessment shows that the maximum potential health impacts are acceptable. The determination as to what constitutes an acceptable risk is the responsibility of the CEQA Lead Agency (i.e., Davis City Council) which has the

¹ Gauderman, W. James, Hita Vora, Rob McConnell, Kiros Behane, Frank Gilliland, Duncan Thomas, Fred Lurmann, Edward Avol, Nino Kunzli, Michael Jerrett and John Peters. *Effect of exposure to traffic on lung development from 10 to 18 years of age: a cohort study*, *The Lancet*, Volume 369, pages 571-577, February 17, 2007.

² ARB. *Air Quality and Land Use Handbook: A Community Health Perspective*, April 2005, <http://www.arb.ca.gov/ch/handbook.pdf>

Eric Lee

-2-

February 6, 2009

discretionary authority to determine if the project would result in a potentially significant adverse environmental impact, what feasible mitigation measures should be imposed in an attempt to reduce the potential impact to a less-than-significant level, and whether or not to certify the EIR.

The proposed location for the Project has raised a concern by some over the potential health impacts on future resident children from toxic air contaminants (TACs) emitted by the mobile sources traveling on the adjacent freeway. A recent study, reported in the British medical journal, *The Lancet*, focused on lung development in youngsters between 10 and 18 years of age. The study started with 3,677 ten-year old participating children and ended with 1,445 participants eight years later. The participants were divided into four groups based on the distance between their homes and the nearest southern California freeway as follows: closer than 500 meters (m); between 500 and 1,000 m; between 1,000 and 1,500 m; and further than 1,500 m. No attempt appears to have been made to classify the children based on the distance between their schools and the nearest freeway.

Comment

16-1

Continued

Annual measurements were made of the three following lung function parameters for each child: forced vital capacity (FVC), forced expiratory volume in one second (FEV), and maximum mid-expiratory flow rate (MMEF). According to the authors of the study, lung function, as measured by these three parameters, increases most rapidly in children between the ages and 10 and 18. The measurements were subjected to statistical analysis in which the data for the group with homes furthest from the freeways was used as the reference values, and subtracted from measurements for the three groups with homes nearer the freeways. Any resulting negative values for these calculated differences indicated decreased lung function growth.

The study used statistical analysis of the above data to conclude that growth in lung function, as measured by FEV and MMEF, was reduced a statistically significant amount in children who lived closer than 500 meters (m) from a freeway as compared to the reference group who lived more than 1,500 m (4,921 feet or 0.93 miles) from the freeway during this period of their lives. The study also found that FVC did not decrease a statistically significant amount between the reference group and the other two groups that lived at the intermediate distances. Some children in the intermediate distance groups actually experienced lung function growth that exceeded that of the children in the reference group. There was no attempt in the paper to reconcile these apparently inconsistent results; however, the paper carefully and precisely stated the authors' conclusions regarding the two parameters and one distance category for which a statistically significant effect was found.

Another way of expressing the same statistical results presented in the paper is that the 95 percent confidence intervals around the mean reductions of the respiratory parameters versus distance overlapped so heavily that the differences in reductions in lung function growth were mostly not statistically significant with a confidence level of 95%.^{3,4} When

³ Stated in statistical terminology, the null hypothesis that the lung function growth difference between one of the specified distance intervals and the largest distance interval (> 1500 m) is zero (i.e., not different) cannot be rejected with 95% confidence for seven of the nine combinations of respiratory parameters and distances. Only for FEV and MMEF between children living closer than 500 m and those living further

the FEV, MMEF, and FVC measurements were compared with model-generated⁵ levels of pollution from the nearby freeway divided into four quartiles, none of the nine combinations of lung function parameter and modeled pollution level were statistically significant (i.e., the first quartile, consisting of the lowest level of pollution, was the reference group). Similarly, when the lung function measurements were compared with four groups defined by their distance from a nearby non-freeway road (i.e., distances < 75 m, 75-150 m, 150-300 m, and > 300 m), none of the nine combinations of lung function parameter and distance from the non-freeway road was statistically significant. The final comparison was of the lung function measurements and model-generated levels of pollution from the nearby non-freeway road, and again, none of the nine combinations of lung function parameter and modeled pollution level was statistically significant. No statistically significant differences were found in 34 out of 36 comparisons of lung function and distance or modeled pollution levels.

Comment

16-1

It was suggested at the January 14, 2009 Davis Planning Commission meeting that the lack of significant relationship between the modeled exposure levels and reduced lung function indicated (1) that the distance between home and freeway was an independent variable, and (2) dispersion models are inappropriate tools for evaluating potential health impacts from near freeway exposures. It is our professional opinion that both conclusions are incorrect.

Continued

At the time of the Planning Commission meeting, we did not have available to us the appendices to the Lancet study which described the dispersion modeling techniques used; we have since had the opportunity to review these appendices. The technical appendix describing the dispersion modeling analysis consists of a single page, and provides only a limited amount of information about what should properly have been an extensive analysis. The little information provided, however, discloses two key weaknesses in the modeling analysis which likely leads to the lack of statistical correlation.

First, although the health effects data looked at changes between 1993 and 2004 (covering the two cohorts of children studied), the air dispersion modeling was conducted using annual average traffic data from a single year, 2000. Given the diversity of locations studied (from Alpine in San Diego County to Atascadero in San Luis Obispo County), significant variances in changes in traffic patterns over the study period would be expected between the different locations. No evidence is contained to indicate that the authors looked particularly at traffic volumes and vehicle mix (cars vs trucks) at night and weekend times, which is when the students would have been expected to be home. (In fact, an assessment of one variable, ambient ozone levels, was expressly performed looking at data collected between 10 am and 6 pm, hours when students would have been at school, and not at home.)

Second, the authors selected a dispersion model, CALINE4, which is incapable of simulating dispersion from a year of meteorological data, as is the industry norm for a

than 1,500 m can the null hypothesis be rejected; hence, there is 95% confidence that the difference is statistically significant only for those two measures of lung function growth.

⁴ Weiss, Neil A. *Elementary Statistics*, Sixth Edition, Pearson/Addison Wesley, Boston, page 447, 2005.

⁵ The study did not directly include measured concentrations of specific criteria pollutants or TACs, but noted the existence of other studies of pollution near freeways that considered nitrogen dioxide, ultrafine particulate matter, Diesel exhaust, and black or elemental carbon.

Eric Lee

-4-

February 6, 2009

study of this type. Rather, CALINE4 can calculate dispersion for only eight meteorological conditions at one time, and is typically used in analyses of short-term (one-hour or eight-hour) impacts. A different industry standard model, CAL3QHCR is more typically used to calculate dispersion when looking at long term (e.g., annual) impacts.

These two factors – the lack of traffic and emissions data that match, temporally, the study period used to examine health impacts, and the failure to use a dispersion model capable of treating actual meteorological data from the study areas – render the dispersion modeling results, and any conclusions derived from them, virtually meaningless.

Comment

16-1

Continued

The above results make it difficult to apply the results of the study, on a quantitative level, to a conclusion that exposures to emissions from I-80 in residents of the New Harmony project would decrease lung function growth in children between 10 and 18 years of age. None of the physical measures of lung function used in the study should be confused with lung cancer or any other respiratory disease.

Under CEQA, a significant adverse impact can only be found based on substantial evidence of the significance of the impact. Statistical analysis is one quantitative area that directly uses the concept of significance in determining the potential meaningfulness of results. Because 34 of the 36 comparisons in the statistical analysis of lung function development of children living near freeways failed to achieve a 95% level of confidence, the potential adverse health impact is less than significant in the context of a CEQA EIR, even if these results were applicable to the geography and meteorology of the location of the proposed New Harmony project. As we indicated to the Planning Commission, it is our professional opinion that the location of the New Harmony project generally upwind of Interstate 80 is an important factor in evaluating the potential for significant health impacts to residents.

We do not believe that the Gauderman et al study reported in *The Lancet* contains conclusions that are sufficiently statistically robust to support a CEQA finding of a significant adverse public health impact from the proposed New Harmony Project nor to undermine or render inaccurate the conclusions in the LSA Associates health risk assessment on the Project. Although the EIR does not explicitly refer to lung function growth in children, the HRA does specifically quantify the emissions, and resulting concentrations to which children in the proposed project would be exposed, for Diesel exhaust particulate and the toxic gaseous compounds generated by gasoline combustion in freeway vehicles. It is exactly this set of TACs that can impact lung function growth in children or cause other health effects, both in children and adults, but only if emitted at high enough emission rates that result in high enough ground-level concentrations. The HRA calculates the emission rates of each TAC from the freeway, the resulting maximum ground-level concentrations throughout the proposed project, and the maximum potential non-cancer acute and chronic health hazards and cancer risk, showing that all of these impacts are less than significant.

We agree with the conclusions by Professor Cahill and LSA Associates that the proposed location will not result in significant adverse health impacts to residents as a result of emissions from the nearby freeway.

Response to Comment 16-1

Comments noted. Comments support air quality analyses and studies prepared for the project. Comments provide additional analysis and clarifying information.

SECTION 5

5.0 MITIGATION MONITORING PLAN

5.1 INTRODUCTION

Section 15097 of the California Environmental Quality Act (CEQA) requires all local and state agencies to establish monitoring or reporting programs for projects approved by the public agency whenever approval involves the adoption of either a mitigated negative declaration or specific environmental findings related to environmental impact reports.

Table 5.1 below contains the Mitigation Monitoring Plan (MMP) for the New Harmony Apartment Community project. The plan includes a description of the CEQA requirements and a compliance checklist. The project chosen would include mitigation measures. The intent of the MMP is to establish and enforce a means for properly and successfully implementing the mitigation measures identified in this EIR. Unless otherwise noted, the applicant shall fund the cost of implementing the mitigation measures as established by this MMP.

5.2 COMPLIANCE CHECKLIST

This Mitigation Monitoring Plan (MMP) contained herein is intended to satisfy the requirements of CEQA as they relate to the EIR for the New Harmony Apartment Community project prepared by the City of Davis. This MMP is to be used by city staff and mitigation monitoring personnel to ensure compliance with the mitigation measures during and as part of project implementation. Again, the mitigation measures in this MMP are identified in the EIR prepared for the proposal.

The intent of the MMP is to ensure the effective implementation and enforcement of the adopted mitigation measures and permit conditions. The MMP will provide for monitoring of construction activities as necessary and in-the-field identification and resolution of environmental concerns. Hence the monitoring and documenting of the implementation of mitigation measures will be coordinated with the City of Davis. Table 5.1 below identifies the mitigation measures, the monitoring action, the responsible party for monitoring, and timing of the monitoring. The applicant will be fully responsible for understanding and effectively implementing the mitigation measures contained in the MMP. The City of Davis will be responsible for ensuring compliance.

**TABLE 5.1 - MITIGATION MONITORING PLAN
NEW HARMONY AFFORDABLE APARTMENT COMMUNITY PROJECT**

| Impact | Mitigation Measure | Implementing Party | Timing | Monitoring Action | Monitoring Party |
|--|---|---------------------------------------|---------------------------------------|---|----------------------------------|
| <p>Air Quality: The proposed project would expose potential residents to elevated health risks associated with vehicle emissions from the nearby freeway.</p> | <p>MM#1 – Air Quality. In order to minimize air quality impacts and improve indoor air quality, prior to issuance of building permits the applicant shall incorporate the following mitigation measures into the building plans subject to review and approval of the Community Development Director and Building Official:</p> <ul style="list-style-type: none"> a) Provide an enhanced filtration for all dwelling units using passive electrostatic filters and low air velocities or equivalent; b) Use low-VOC materials and carpeting, and no-VOC paints, in the dwelling units consistent with Build It Green’s Multi-Family Green Building Guidelines. c) Air intake systems for the HVAC shall be placed to minimize roadway air pollution sources. d) Provide and implement a plan for notification to new residents about the potential health impacts from traffic pollution and for the on-going maintenance of the ventilation and filtration system. | Applicant/ Developer | Prior to Issuance of Building Permits | Incorporate in building plans for review and approval | Community Development Department |
| <p>Biological: The western burrowing owl (<i>Athene cunicularia hypugea</i>)</p> | <p>MM#2 - Burrowing Owl. Prior to any grading or construction on site, a preconstruction survey for burrowing owls shall be conducted in areas of suitable habitat on and within 250 feet of the</p> | a) Qualified Biologist/ Applicant/ | a) No more than 30 days prior to | a) Provide survey for review and | a) City Biologist |

| Impact | Mitigation Measure | Implementing Party | Timing | Monitoring Action | Monitoring Party |
|--|--|---|--|--|---|
| <p>is a Federal Bird of Conservation Concern and state Species of Special Concern which is known to exist in the City of Davis and the vicinity. It inhabits vacant parcels and fields similar to the project site. Although none have been observed on the project site, burrowing owls were observed on an adjacent property in 2003. The burrowing owl is an opportunistic species that will occupy existing burrows and could potentially move onto the site to nest prior to construction. Disturbance and impacts to nesting burrowing owls could occur.</p> | <p>project site. A minimum of one survey shall be conducted by a qualified biologist and shall be completed no less than 14 days and no more than 30 days before grading or construction begins.</p> | Developer | grading or site disturbance | approval | |
| | <p>Surveys shall be conducted by walking transects no more than 100 feet apart to achieve 100% visual coverage.</p> <p>a) If no occupied burrows are found during preconstruction surveys, a letter report documenting survey methods and findings should be submitted to the City of Davis for review and approval, and no further mitigation is required for potential impacts to burrowing owls.</p> | b)-c) Qualified Biologist/ Applicant/ Developer | <p>b) Prior to grading or site disturbance</p> <p>c) Prior to and during grading</p> | b)-c) Provide written documentation | b)-c) City Biologist |
| | <p>b) If an occupied burrow is found on or within 250 feet of the project site, potential disturbance shall be minimized by establishing a 160-foot radius buffer during non-breeding season (September 1 through January 31) or a 250 foot radius buffer around the burrow during breeding season (February 1 through August 31) until the breeding season ends, or it is confirmed by a qualified biologist that the burrow is no longer occupied.</p> <p>c) If destruction of an occupied burrow in the project area is unavoidable, passive relocation techniques shall be used during</p> | d) Applicant/ Developer | d) Prior to issuance of grading or building permits | d) Provide documentation of compliance | d) City Biologist/ Community Development Department |

| Impact | Mitigation Measure | Implementing Party | Timing | Monitoring Action | Monitoring Party |
|--------|---|--------------------|--------|-------------------|------------------|
| | <p>the non-breeding season (September 1 through January 31) to exclude the owls from the burrow in accordance with DFG guidelines (DFG 1995). Following relocation, the project site shall be monitored for five consecutive days to ensure that owls are no longer present. If site grading does not occur within three days after the five consecutive days of monitoring is completed, a biologist shall resurvey the site to determine if owls have reoccupied the site. If owls have reoccupied the site, passive relocation and monitoring procedures must be repeated. A qualified biologist shall be present during initial grading. If owls are present during initial grading, all grading must cease and passive relocation and monitoring procedures shall be repeated. Following completion of the passive relocation, a letter shall be submitted to the City of Davis documenting the methods and results of burrowing owl passive relocation on the project site. If there are no occupied nests or if nesting owls have been relocated as described above, the site may be maintained per City requirements to prevent occupation by any burrowing owls.</p> | | | | |

| Impact | Mitigation Measure | Implementing Party | Timing | Monitoring Action | Monitoring Party |
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| | <p>d) In addition to passive relocation, DFG guidelines suggest mitigating for the loss of burrowing owl nesting habitat on protected lands at a ratio of 6.5 acres per pair or individual displaced by development. If occupied nests are detected on-site during breeding season, the applicant shall mitigate for the loss of nesting habitat consistent with DFG guidelines.</p> | | | | |
| <p>Noise: Noise from construction activities for the proposed project could exceed acceptable noise thresholds for nearby residences.</p> | <p>Construction Noise Mitigation. In order to reduce potential impacts from short-term construction noise on nearby residences to a less than significant level for development of the residential parcel, the project contractor shall implement the following measures to be included as notes on grading and building plans. If the residential parcel is developed and occupied before construction on the commercial/office parcel occurs, the following measures shall also be implemented for construction on the commercial/office parcel.</p> <p>a) The project contractor shall permit only one piece of earthmoving equipment (including scrapers, haul trucks, rollers, dozers, tractors, front end loaders, hydraulic backhoes or excavators, graders, or similar equipment) to operate at any single time within 100 feet of the Owendale</p> | <p>Contractor/ Applicant/ Developer</p> | <p>Prior to issuance of building or grading permits/ During construction</p> | <p>Include as notes on construction documents</p> | <p>Community Development Department</p> |

| Impact | Mitigation Measure | Implementing Party | Timing | Monitoring Action | Monitoring Party |
|--------|---|--------------------|--------|-------------------|------------------|
| | <p>Community property line;</p> <p>b) During all project site excavation and on-site grading, the project contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers and bafflers consistent with manufacturers' standards;</p> <p>c) The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site;</p> <p>d) The construction contractor shall locate equipment staging in areas that will create the greatest possible distance between construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction; and</p> <p>e) During all project construction, the construction contractor shall limit all noise-producing construction related activities to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday, and to the hours of 8:00 a.m. and 8:00 p.m. on Saturdays and Sundays. For the office/commercial parcels which are located more than two hundred feet from existing homes, the contractor may request a special use permit to begin work at 6 a.m. on weekdays from June 15th</p> | | | | |

| Impact | Mitigation Measure | Implementing Party | Timing | Monitoring Action | Monitoring Party |
|---|--|-------------------------|---------------------------------------|---|----------------------------------|
| | until September 1 st . | | | | |
| <p>Noise: Noise from the nearby freeway could exceed acceptable indoor and outdoor residential noise levels.</p> | <p>Residential Parcel Traffic Noise Mitigation. In order to reduce impacts from traffic noise on the residential parcel to a less than significant level, the applicant shall incorporate the following measures into the building plans for the residential parcel subject to review and approval of the Community Development Director:</p> <ul style="list-style-type: none"> a) A minimum setback of 260 feet from the centerline of I-80 shall be required of all noise sensitive land uses on the residential parcels; b) An alternate form of ventilation, such as an air conditioning system and trickle ventilation, shall be required for all residential units directly exposed to I-80 to ensure that windows can remain closed for a prolonged period of time; c) Windows with a minimum STC-32 rating shall be required for all residential units with façades directly exposed to I-80; and d) All outdoor active use areas (including playgrounds, patios, and balconies) shall be located on the south side of buildings on the residential parcels. | Applicant/ Developer | Prior to issuance of building permits | Incorporate in building plans for review and approval | Community Development Department |
| <p>Noise: Noise from the nearby freeway could exceed</p> | <p>Office Parcel Traffic Noise Mitigation. In order to reduce impacts from traffic noise on the office parcel to a less than significant level, the applicant</p> | Applicant/ Developer | Prior to issuance of | Incorporate in building plans | Community Development |

| Impact | Mitigation Measure | Implementing Party | Timing | Monitoring Action | Monitoring Party |
|--|--|-------------------------|---------------------------------|---------------------------------------|-------------------------|
| acceptable indoor and outdoor noise levels for office uses. | <p>shall incorporate the following measures into the building plans for the office parcel subject to review and approval of the Community Development Director:</p> <ul style="list-style-type: none"> a) A berm a minimum of 4 feet in height above the finished pad elevation and extending the length of the property should be constructed on the northern property boundary adjacent to I-80; b) The berm should be landscaped with dense vegetation and tree cover to aid in blocking the line of sight to the traffic noise source; c) A minimum setback of 165 feet from the centerline of I-80 shall be required of all noise sensitive land uses on the office/commercial parcel; d) An alternate form of ventilation, such as an air conditioning system, shall be required for all office/commercial spaces directly exposed to I-80 to ensure that windows can remain closed for a prolonged period of time; and e) Outdoor active use areas shall be placed on the south side of the berm or of the building. | | building permits | for review and approval | Department |
| Traffic/Circulation: Project could result in circulation and safety impacts. | Traffic/Circulation Mitigation. In order to reduce potential traffic safety and circulation impacts to a less than significant level, the applicant shall implement the following | Applicant/ Developer | Prior to issuance of grading or | Incorporate in construction documents | Public Works Department |

| Impact | Mitigation Measure | Implementing Party | Timing | Monitoring Action | Monitoring Party |
|--------|--|--------------------|------------------|---|------------------|
| | measures to the satisfaction of City Engineer: a) Construct half roadway improvements along project frontage on Cowell Boulevard and Drummond Avenue and provide a two-way left turn lane to facilitate access into and out of the project site; and b) Verify and maintain appropriate sight distances at the driveway locations. | | building permits | and provide documentation or adequate assurances for completion | |

SECTION 6

6.0 APPENDIX

6.1 Studies and attachments provided by Commenter 8, SMHA/YMHA.

6.2 Article Summaries and Abstracts from “*Moving Forward*” Conference 2007 provided by Commenter 11, Dan Brugger.