Final Environmental Impact Report

Central Larkspur Specific Plan

SCH #2001112092

Prepared by:

EDAW

2022 J Street

Sacramento, CA 95814

November 5, 2004

EDAW

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1 INTRODUCTION

1.1 PURPOSE OF THIS DOCUMENT

On November 14, 2003, City of Larkspur (City) distributed to public agencies and the general public the Revised Draft Environmental Impact Report (DEIR) on the Central Larkspur Specific Plan (Specific Plan or proposed project). The DEIR was prepared under the direction of the City in accordance with the requirements of the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] §§21000 et seq.) and the State CEQA Guidelines (California Code of Regulations §§15000 through 15387). The City is the lead agency for CEQA compliance.

In accordance with §15105(a) of the State CEQA Guidelines, the City provided a 60 day public review period for the DEIR; the City subsequently extended the public review period for additional 30 days, with the new review period ending on February 12, 2004 (see Appendix A-2 for letters from the State Clearinghouse). The Agency received 28 comment letters on the DEIR. In addition, two public hearings were held by the City of Larkspur Planning Commission on January 13, 2004 and on February 3, 2004 to give the public the opportunity to provide oral comments on the DEIR. Several individuals provided oral and written comments.

According to State CEQA Guidelines §15088, a lead agency must evaluate comments on environmental issues received from persons who reviewed a DEIR on a project and must prepare written responses to those comments. This document has been prepared in accordance with State CEQA Guidelines §§15088 and 15132 to respond to the comments received by the City on environmental issues related to the DEIR. While the Final Environmental Impact Report (FEIR) includes acknowledgement of all issues submitted in the public comment letters and public hearings, the FEIR includes formal responses to only those comments that pertain to physical changes in the environment as described by the State CEQA Guidelines (see §§15358 and 15382).

This document consists of the following chapters:

- Chapter 1, Introduction, describes the purpose of this document, presents a summary of the proposed project, and includes an analysis of issues related to recirculation of the DEIR.
- Chapter 2, Comments and Responses to Comments on the DEIR, reproduces the comment letters received by the City on the DEIR and transcripts of the comments provided at the two public hearings, and provides responses to the comments.
- Chapter 3, Revisions to the Draft EIR, lists modifications to the DEIR made in response to comments or as initiated by the City.
- Chapter 4, References, lists the sources cited in this document.

- Chapter 5, Document Preparers, lists the individuals who contributed to the preparation of this document.
- Appendices includes technical data used in the analysis that were not included in the DEIR.

This document and the DEIR together constitute the FEIR for the proposed project. The DEIR is hereby incorporated into this document by reference.

1.2 SUMMARY DESCRIPTION OF THE PROPOSED PROJECT

The DEIR evaluated the proposed project as summarized below. The project description is provided in detail in DEIR Chapter 2.

The Specific Plan proposes a 22-acre rectangular-shaped, mixed-use development area with retail, recreation, cultural, civic, and residential uses that would contribute to the vitality of the Downtown area of the city, combining current land uses with new development. Subarea 1 consists of five properties fronting on Magnolia Avenue and East Ward Street in the southwest portion of the Specific Plan area, encompassing the historic railroad structures and adjacent commercial buildings, a City park, an access driveway to Larkspur Plaza, a City-owned parking lot, and the American Legion hall. Subarea 2, which fronts on Doherty Drive near Magnolia Avenue, has existing commercial establishments including Albertsons supermarket and a gas station. Subarea 3 consists of the Niven property, which is occupied by abandoned greenhouses and other nursery operations structures, a small retail nursery in the northeastern corner of the subarea, and a modular residential unit. The Doherty Drive right-of-way, from Magnolia Avenue east to the city limit (5.58 acres), is included within the Specific Plan boundaries but is not developable for any other use and, thus, is not included within the development subareas. Other planning and site improvements would be required and are described below. A number of land uses are permitted in each of the subareas, as described in the Specific Plan and regulated by the City Zoning and Subdivision Ordinance.

The first set of approvals to be considered by the Planning Commission and the City Council will include amendments to the City of Larkspur General Plan (General Plan) and the Larkspur Downtown Specific Plan, adoption of the Specific Plan, and rezoning of Subarea 3 to Planned Development District, with the adoption of the Specific Plan as the Preliminary Development Plan. The information included in this EIR will also be used by other regulatory agencies (e.g., California Department of Toxic Substances Control) in deciding whether to grant permits or approvals necessary to construct and operate proposed future implementing projects.

1.3 CEQA GUIDELINES ON RECIRCULATION

Recirculation is the process by which the DEIR is revised and redistributed to the public for additional comments prior to the completion of the Final EIR. CEQA requires recirculation

only under special circumstances. Section 15088.5 of the State CEQA Guidelines identifies the requirements for recirculating an EIR as follows:

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

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

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

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

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

(b) Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR.

(c) If the revision is limited to a few chapters or portions of the EIR, the lead agency need only recirculate the chapters or portions that have been modified.

(d) Recirculation of an EIR requires notice pursuant to §15087, and consultation pursuant to §15086.

(e) A decision not to recirculate an EIR must be supported by substantial evidence in the administrative record.

The intent of this section of State CEQA Guidelines is to ensure that decisions-makers and the public have the opportunity to review new information that affects the DEIR's conclusions about significant environmental effects. As shown in the responses to comments in Section 2.2 of this document, new information is added to clarify the analysis in the DEIR. This document also includes modifications to mitigation measures recommended in the DEIR; these modifications would not result in new significant and adverse impacts. The City is expected to adopt the mitigation measures as revised herein. The comments and responses to comments

do not reveal any new significant impacts, substantial increase in severity of any impacts, nor any alternatives or mitigation measures considerably different from those analyzed in the DEIR. No significant new information as defined by §15088.5 of the State CEQA Guidelines are added to the EIR. For these reasons, the City has determined that the modifications to the DEIR as presented in this document do not warrant a recirculation of the DEIR.

2 COMMENTS AND RESPONSES TO COMMENTS ON THE DEIR

2.1 LIST OF COMMENTERS

The City received 28 comment letters on the DEIR during the public comment period. In addition, the City received oral comments at the two public hearings held on the January 14, 2004 and February 3, 2004. The City also received two letters from Governor's Office of Planning and Research, State Clearinghouse on December 23, 2003 and February 13, 2004; these letters are included in Appendix A-2.

Each comment letter and public hearing transcript has been assigned a letter (e.g., Letter A, Letter B) and each comment within a letter/transcript has been numbered (e.g., Comment A-1). The letter and number assigned to each letter/transcript/comment are indicated on the written communications and transcripts that follow in the table below and in Section 2.2. The responses provided in Section 2.2 are assigned corresponding letters and numbers. Where appropriate, responses are cross-referenced.

Table 2-1
Written and Oral Comments on DEIR

Commenter Code	Agency/Organization/Individual	Date
A	Larkspur Planning Commission (Public Hearing)	January 14, 2004
B	Larkspur Planning Commission (Public Hearing)	February 3, 2004
C	Golden Gate Bridge Highway & Transportation District	December 9, 2003
D	Sanford and Carol Svetcov	December 22, 2003
E	D. Theodore N. Preovolos	January 7, 2004
F	County of Marin, Department of Public Works	January 9, 2004
G	Stan Minasian	January 11, 2004
H	Gail Connolly	January 20, 2004
I	Lawrence R. Lanctot	January 28, 2004
J	Tamalpais Union High School District	January 28, 2004
K	Robert I. Harrison, Transportation Planning and Project Management (Consultant to City of Larkspur)	January 29, 2004
L	James W. Holmes	February 2, 2004

Table 2-1 Written and Oral Comments on DEIR		
Commenter Code	Agency/Organization/Individual	Date
M	Larkspur Library Board	February 3, 2004
N	Marin County Bicycle Coalition	February 3, 2004
O	Larkspur Heritage Preservation Board	February 5, 2004
P	Deborah Busse	February 10, 2004
Q	Cecilia B. Bridges on behalf of Larkspur Housing Partners	February 11, 2004
R	California Environmental Protection Agency, Department of Toxic Substances Control	February 11, 2004
S	Aileen M. Donovan	February 11, 2004
T	Charles G. Maltzahn	February 11, 2004
U	Marin Audubon Society	February 11, 2004
V	Shute, Mihaly & Weinberger LLP on behalf of Citizens for Rational Growth	February 11, 2004
W	Animal Protection Institute	February 12, 2004
X	Larkspur School District	February 12, 2004
Y	County of Marin, Department of Public Works, Congestion Management Agency	February 12, 2004
Z	Miller, Starr & Regalia on behalf of Larkspur Housing Partners	February 12, 2004
AA	Stoel Rives LLP on behalf of the Niven Family	February 12, 2004
BB	Timothy C. Noel of Rawson Blum & Leon	February 13, 2004
CC	Edy O. Sennhauser	February 13, 2004
DD	Robert Schittli	February 14, 2004
EE	Friends of Corte Madera Watershed	January 6, 2004
FF	U.S. Army Corps of Engineers	No date

2.2 COMMENTS AND RESPONSES TO COMMENTS

Section 2.2 presents comments received on the DEIR and the responses to those comments. Each comment letter, including the written comments received at the public hearings, is reproduced in its entirety and is followed by responses to comments on substantive environmental issues. This section also includes the transcripts of the two public hearings, followed by responses to oral comments on substantive environmental issues.

Some of the responses include revisions to DEIR text. Text revisions are shown as excerpts from the DEIR text, with strikethrough (~~strikethrough~~) text for deletions and underlined (underlined) text for additions. These revisions are also included in Chapter 3 of this document.

Some comments on the DEIR do not pertain to physical environmental issues. This document includes responses to such comments, though not required under CEQA, to provide additional information. The phrase "comment noted," and variants thereof, are used when the City wishes to acknowledge a comment that does not directly pertain to environmental issues as defined by the State CEQA Guidelines, does not pose a question about the DEIR, or does not challenge the analyses or conclusions in the EIR. The intent is simply to recognize the comment. Many of the comments expressed opinions about aspects of the Specific Plan and are included in this document for consideration by the City.

A

LARKSPUR PLANNING COMMISSION MEETING
MINUTES OF JANUARY 14, 2004

The Larkspur Planning Commission was convened at 7:30 p.m. in the Council Chambers by Chair Ratner.

Commissioners Present: Chair David Ratner, Commissioners Helen Heitkamp, Chris McCluney, Jeff Stahl

Commissioners Absent: Commissioner Monte Deignan

Staff Present: Nancy Kaufman, Planning Director
Bob Pendoley, Planning Consultant
Sydney Coatsworth, EDAW, Planning Consultant
Steven Huang, EDAW, Planning Consultant

OPEN TIME FOR PUBLIC EXPRESSION

No one spoke during this time.

PLANNING DIRECTOR'S REPORT

- She distributed a flyer from Ms. Betty Padgett from EAH regarding their Winter Luncheon.
- She will distribute comments on the Draft EIR to the Commission as they come in.
- She asked anyone giving public testimony to fill out a "speaker slip".

AGENDA ITEM

PUBLIC HEARING

1. **SP 01-100: REVISED DRAFT ENVIRONMENTAL IMPACT REPORT ON THE CENTRAL LARKSPUR SPECIFIC PLAN**
   Project Location: Project site encompasses 22-acres bordered by Magnolia Avenue on the west East Ward Street, Meadow Drive, and Larkspur Creek on the south; Larkspur Creek on the east, and Doherty Drive on the north. In addition, the project site includes the entire Doherty Drive right-of-way from Magnolia Avenue east to the City limit (5.58 acres). Initiated by the City of Larkspur. Project Description: The Central Larkspur Specific Plan is a comprehensive plan for development in the project area. The Specific Plan addresses the following issues: the distribution, location and intensity of land uses, including open space; the location and capacity of major infrastructure systems, including transportation, sewerage, and stormwater drainage; standards and criteria for development and utilization of natural resources; and implementation measures. The Specific Plan envisions development of mixed-use

retail, residential development and public parking, fronting on Magnolia Boulevard. Approximately 85 residential dwellings would be developed on the eastern two-thirds of the property. The project includes amendments to the General Plan and the Downtown Specific Plan, adoption of the Specific Plan, and rezoning of Subarea 3, the Niven Property, to Planned Development District, with the adoption of the Specific Plan as the Preliminary Development Plan.

Chair Ratner stated the purpose of the hearing was to receive comments on the adequacy of the Revised Draft Environmental Impact Report in identifying and analyzing the possible impacts of the Specific Plan on the environment and ways in which they may be mitigated. It is not to discuss the pros and cons of the Specific Plan. There will be a second hearing on February 3rd and written comments should be submitted by 5:00 p.m. on February 12th.

Planning Consultant Pendoley presented the staff report.

Mr. Steven Huang, representing EDW, presented the highlights of the document.

Commissioner Stahl stated the analysis of traffic included the "project" scenario and the "project plus cumulative impacts" scenarios and he asked if they could analyze only the "cumulative impacts" of what the General Plan would allow. Ms. Sydney Coatsworth, representing EDAW, stated they did analyze the "existing" plus "cumulative" with no Specific Plan scenario but she was not sure if this assumed no development on the site. The traffic engineer could provide a response. She referred to the table on page 4.7-39. She stated this could be compared to the "existing" plus "cumulative" plus Specific Plan scenario.

Chair Ratner opened the Public Hearing.

Mr. Chris Hartzell, Loma Vista Avenue, stated:

- The document meets the spirit of CEQA in identifying potential negative impacts and mitigating actions. A-1
- He would have liked the document more if it had invested more energy in looking at the positive impacts of the Specific Plan. Positive impacts would include the creation of a revitalized downtown, the potential architectural design contributions, and the development of an environment that discourages the use of automobiles. A-2

Mr. James Holmes, Madrone Avenue, stated:

- The document was well written and relatively clear. A-3
- He referred to page 4.7-3 and asked what dates the traffic survey counts were taken. He wanted to make sure they were not taken during a holiday or any other atypical day. A-4
- He referred to page 4.8-5 regarding noise levels and posed the same question. A-5

Mr. Arvo Toukonen, Assistant Superintendent for Administrative Services of the Tamalpais Union School District, stated they are interested in the plan and working with the City. They will submit written comments prior to the closing of the comment period.

Chair Ratner closed the Public Hearing.

Commissioner Stahl made the following comments:

- The EIR discussed impacts and the assumption is that they are negative. The EIR should discuss the impacts of the existing site compared to the proposed benefits of the project. He mentioned the derelict facility on the site and the fact that it is a public hazard and a nuisance. He noted there is a safety issue relative to the broken glass and children climbing on the structures. Ms. Coatsworth stated the EIR attempts to take in all of that information and balance it with the beneficial effects. A-6 A-7
- In terms of beneficial impacts, Commissioner Stahl noted the abatement issue regarding the cleanup of the site and the benefits of removal of the hazardous materials; the restoration of the habitat along the creek to a more pristine condition than exists today including the removal of non-native invasive species. A-8 A-9
- He stated the draft plan allows up to 46,000 square feet of commercial/retail development in the downtown area and he asked if the traffic analysis was based on the worst-case retail scenario. Planning Consultant Pendoley stated the document must look at the worst case scenario. Commissioner Stahl discussed the section regarding the FAR bonus and stated that the Commission may want to consider language that confines this to a particular portion of the subarea. A-10
- He discussed the traffic analysis and asked if the a.m. and p.m. peak periods included the time when the high school students arrive at and leave school. Which is the worse peak period, 3:00 p.m. or 5:00 p.m.? A-11
- He referred to page 2-17, the circulation description, and stated he did not see any access from Ward Street to the proposed project site. A-12
- He referred to page 2-24, Projects Contributing to Potential Impacts, and stated there was no mention of the possible expansion of San Quentin Prison and its impact on this area. A-13
- He stated some of the traffic mitigation measures appear to result in the loss of parking in the downtown area and he did not see any mention of this impact. Mr. Huang stated this was addressed on page 4.7-6 and 4.7-32 and was found to have a less than significant impact. A-14
- He referred to page 4.7-7, construction related impacts, and stated he would like the proposed policy to specifically mention avoiding construction during school pick-up and drop-off hours. A-15
- He would like the Commission to discuss the fact that some of the traffic mitigation measures in the EIR have already been considered as part of the TIF program and may have other, unintended consequences. He asked if some of these improvements could be approved on a "wait and see" basis. Planning Director Kaufman stated the City could do that by making the proper findings. Commissioner Heitkamp suggested the document include something that explains the rationale of "level of service"; rationale used for "level of service" may not be what fits the community. A-16 A-17

- He asked that the document explain the meaning of the acronyms on page 3-33, Executive Summary. Ms. Coatsworth stated they sounded like references to archeological sites, which are numbering of sites and there may not be an explanation for lettering. A-18
- He referred to page 6-3, Table 6-1, Land Use Types, and questioned the number of PM peak hour trips generated from the low-density alternative. He referred to page 6-6, Table 6-2, and asked how some of the "no project" traffic impacts could be worse that those from a "project" scenario. He also stated that the PM trip generation for the community center did not seem realistic. A-19

Commissioner Heitkamp stated that Commissioner Stahl covered many of her comments. She also made the following additional comments:

- She referred to page 3-28 and stated there were no alternatives mentioned to the recommendation of a traffic signal at Piper Park such as a left-hand turn lane or a way to control the signals so they are flashing or non-operative during non-peak hours. Commissioner Stahl stated this could also apply to the Magnolia Avenue and King Street intersection. A-20 A-21
- She was concerned about the traffic count assessment of the two exits from the project site, Magnolia and Doherty, and does the split offer some mitigation to the traffic. A-22
- She referred to page 2-1 and stated it should be noted that the original railroad station and warming house were built in 1891 and replaced in 1929, representing a longer period of historic significance. A-23
- She referred to page 2-5, the last paragraph, and stated the Larkspur Boardwalk and the Police Station should be included in the description of the "immediate area". A-24

Chair Ratner thanked everyone for his or her comments. The hearing was continued to February 3, 2004.

BUSINESS ITEMS

1. Commissioner's Reports

There were no reports.

The meeting was adjourned at 8:15 p.m.

Respectfully submitted,

Toni DeFrancis
Recording Secretary

MR. CHRIS HARTZELL

A-1 Comment noted, and no further response is required.

A-2 The purpose of the Specific Plan is to contribute to the vitality of the Downtown area through replacement of derelict structures, provision of a range and diversity of housing, open space, and bicycle and pedestrian paths, and design of new development to compliment Larkspur's small town character and historic Downtown. However, the DEIR does not focus on the benefits of the project, but rather on its environmental impacts in accordance with CEQA and the State CEQA Guidelines (Public Resources Code § 21000-21004; State CEQA Guidelines §15002, 15086, 15087, 15143). That is to:

- Disclose to decision makers and the public the significant environmental effects of proposed activities
- Identify ways to avoid or reduce environmental damage
- Prevent environmental damage by requiring implementation of feasible alternatives or mitigation measures
- Disclose to the public reasons for agency approval of projects with significant environmental effects
- Foster interagency coordination in the review of projects, and
- Enhance public participation in the planning process

Therefore, the DEIR focuses on disclosing the potential adverse impacts of the Specific Plan and the ways that those impacts will be avoided, reduced or mitigated.

MR. JAMES HOLMES

A-3 Comment noted, and no further response is required.

A-4 Traffic counts were taken on Magnolia Avenue and Doherty Drive over a seven day period (Thursday, May 1 through Wednesday May 7, 2003). Data collection was conducted during a typical week. For example, schools were in session, there were no holidays or special events, and weather conditions were clear. The May 2003 average daily traffic (ADT) traffic count printouts are provided in the appendix to this document.

A-5 Wednesday and Thursday, November 23 and 24, 1999, were the dates on which the City's noise consultants conducted 24-hour data sampling. Short-term noise measurements were taken on Wednesday, November 24, 1999. Twenty-four-hour exterior noise measurements were conducted between Tuesday, May 7, 2002 and Thursday, May 9, 2002. These were typical dates in that there were no holidays or major special events during that particular day, schools were in session and ended at the typical time (Shapiro, pers. comm. 2004) (Pogason, pers. comm. 2004), and weather conditions were typical. It is noted that the purpose of this data sampling was to confirm the noise contour data in the General Plan. Specifically, the sampling was to confirm that the properties were within the noise contours defined in the General Plan. The purpose was not to measure the noise impact of existing or projected traffic volume on nearby properties. (Svinth, pers. comm., 2004).

COMMISSIONER STAHL

A-6 Please refer to response to Comment A-2.

A-7 The abandoned greenhouses in the Specific Plan area would be removed under the Specific Plan, which calls for demolition and removal of existing structures in Subarea 3. The Specific Plan would allow development of the site with retail, recreation, civic and residential uses. Because the comment does not pertain to the adequacy of the DEIR, no further response is necessary.

A-8 Comment noted. The proposed project includes a Removal Action Workplan (RAW) for the purpose of removing hazardous materials from the site (DEIR Page 4.12-6, 4.12-14 to 4.12-16).

A-9 Comment noted. The Specific Plan includes a landscaped buffer adjacent to the creek.

A-10 The traffic analysis assesses the project with approximately 46,000 square feet of new retail use in Subarea 1 and additional 4,500 square feet of retail use in Subarea 2. This amount of retail space represents a maximum level and thus can be considered worst case (see DEIR Table 4.7-7). Refinements to the Specific Plan that confine FAR bonus to particular areas are at the discretion of City decision-makers.

A-11 As noted on DEIR Page 4.7-10, there are two distinct afternoon peak periods in the Doherty Drive corridor due primarily to activity at the Hall Middle School and Redwood High School. Overall traffic volumes peak on Doherty Drive from Magnolia Avenue to Lucky Drive between 3:15 and 3:45 P.M. This spike in traffic is because of students departing the schools and to the start of the afternoon commute traffic traveling west on Doherty Drive from U.S. 101. The second traffic peak occurs generally between 5:00 and 6:00 P.M. and represents the traditional commute peak hour. Although traffic volumes at study intersections on Doherty Drive are highest during the first peak period (3:15-3:45 P.M.) the late commute peak period traffic

sustains high volumes consistently for the hour and, for this reason, it is this traffic that is analyzed for the P.M. peak hour LOS shown in Table 4.7-1.

It is important to note that the standard Institute of Transportation Engineers (ITE) trip generation rates for the project land uses are tied to the commute period and reflect the peak hour of adjacent street traffic, one hour between 4 and 6 P.M. Attempting to use the background traffic volume occurring before 4 P.M. as the baseline for analysis with the peak-hour project-generated traffic (4 to 6 P.M.) would result in an incorrect measure of peak-hour-plus-project traffic conditions. Instead, the use of the traditional peak hour in the DEIR conforms with ITE methodology and is the valid basis for traffic analysis.

A-12 The Specific Plan would provide for access from Ward Street to Subarea 1 and Subarea 2. If a public parking lot were to be approved for development in Subarea 3, access to the parking lot from Ward Street may be provided (Specific Plan Transportation Policy 13 [Public parking Lot, Subarea 3]). The primary entrances to Subarea 3 would be from Doherty Drive, as stated in the DEIR. The traffic analysis includes these design standards in the traffic modeling.

A-13 The DEIR does not include development on the San Quentin Prison property as a possible project because at the time the Notice of Preparation (NOP) was issued for the proposed Specific Plan, there were no development plans officially being considered by the California Department of Corrections, the agency with jurisdiction over the San Quentin Prison property. Currently, the only known development that would occur on the San Quentin Prison property is a prison improvement project, which includes the redevelopment of the condemned inmate facilities. This project, known as the San Quentin Condemned Inmate Complex project, would add up to 32 AM peak hour trips and 31 PM peak hour trips to area roadways. Because San Quentin Prison property is located on the east side of State Route 101 and most of the trips are regional trips, only 1% of the generated trips is expected to be distributed to local street west of State Route 101, where the Specific Plan area is located. For this reason, the San Quentin CIC project has negligible contribution to cumulative effects at the Specific Plan area. As traffic is already conservative (assumes worst case scenario that is unlikely to happen), this negligible contribution would not change the results of the cumulative analysis. While another development idea, described in the 2003 San Quentin Vision Plan, has been released by Marin County Community Development Agency, this development plan is not under consideration by the California Department of Corrections.

A-14 The Specific Plan identifies a number of potential parking facilities (existing and new) that would serve the development in the Specific Plan area. The DEIR parking analysis indicates that the potential demand for future parking can be met through the development of identified parking facilities. The potential loss of on-street parking on East Ward Street and Magnolia Avenue as a result of traffic impact mitigation measures would be factored into the ultimate project supply requirements. The parking

standards in the Specific Plan would be applied at the time development proposals are submitted to the City for evaluation. If the traffic mitigation measure would result in the loss of some spaces, then future development projects would be required to provide additional parking spaces as a replacement. The potential loss of on-street parking would be replaced with the development of onsite public parking. For this reason, the DEIR states that the impact associated with the increase in parking demand would be less than significant, and no secondary parking impact associated with traffic mitigation measures is identified (see Impact 4.7-6, DEIR Page 4.7-32).

A-15 Mitigation Measure 4.7-7 requires each project developer to prepare and submit a construction management plan to the Department of Public Works before project construction. The City, through the conditions of project approval, can restrict the hours of construction based on safety concerns. While it may not be practical to halt onsite construction during school drop-off and pick-up periods, the movement of heavy equipment and trucks to and from the site can be restricted. The City would determine appropriate and sufficient specific measures to be included in construction management plans on a case-by-case basis when future development proposals are submitted for approval.

A-16 The following mitigation measures identified in the DEIR are considered in the City's Transportation Improvement Fund (TIF) program:

- Mitigation Measure 4.7-1: Install Traffic Signal at Doherty Drive/Riviera Circle/Redwood High School.
- Mitigation Measure 4.7-2: Remove Parking and Add Southbound and Westbound Left Turn Lanes at East Ward Street/Magnolia Avenue.
- Mitigation Measure 4.7-3: Install Traffic Signal at King Street/Magnolia Avenue.
- Mitigation Measure 4.7-8: Implement Mitigation Measure 4.7-1, Install Traffic Signal at Doherty Drive/Riviera Circle/Redwood High School.
- Mitigation Measure 4.7-9: Expand Mitigation Measure 4.7-2 to Add an Additional Northbound Left Turn Lane at King Street/Magnolia Avenue.
- Mitigation Measure 4.7-10: Implement Mitigation Measure 4.7-3, Install Traffic Signal at King Street/Magnolia Avenue.

The developers would be expected to pay a fair share contribution to these TIF improvements. As development proposals for the Specific Plan area are submitted to the City, their project-specific traffic impacts and feasible mitigation measures and associated effects (e.g., loss of on-street parking spaces) will be considered in light of traffic conditions at the time of submittal. Mitigation measures recommended in the DEIR may be appropriate for implementation, or the City may identify other feasible

measures to address traffic impacts. For purpose of analysis, the DEIR identified a theoretical maximum density development to ensure full disclosure and mitigation of potential impacts of Specific Plan buildout. As a practical matter, development of the Specific Plan area is expected to occur in a reasonably paced, project-by-project fashion, so that feasible mitigation measures may be implemented as they are needed. It is noted that the actual number of traffic trips that would be generated by developments when they are approved by the City, as opposed to a theoretical maximum number of trips that may never be reached, would be incorporated in the TIF.

A-17 LOS is a direct measure of traffic movement which correlates with traffic congestion, and is the standard metric used in a traffic analysis. The Larkspur General Plan provides a LOS threshold policy under which LOS D is the minimum acceptable condition. The DEIR analysis of intersection peak hour operations is based on the LOS D threshold. Below LOS D, impacts are identified and mitigation measures are required.

A-18 The following terms are defined in "Acronyms and Abbreviations" of the DEIR:

CRHR California Register of Historic Places
NRHP National Register of Historic Places

CA-MRN-68, described in Section 4.11 of the DEIR, Page 4.11-3, is the code given by the California Historical Resources Information System for a prehistoric site that was identified within the Specific Plan area. The code is the state (CA), the county (MRN for Marin County), and the site number (68).

A-19 Some of the intersections evaluated under No Project conditions indicate a lower LOS than the Proposed Project because the project includes improvements that would not be built under No Project conditions. For instance, development pursuant to the Specific Plan would entail the upgrade and signalization of Doherty Drive/Larkspur Plaza (see Specific Plan Transportation Policy 3).

Trip generation related to the project and the Low Density and Residential Focus Alternatives are based on the Institute of Transportation Engineers (ITE) Trip Generation, 6th Edition. The trip generation rates, plots and equations developed for the ITE publication and used in this EIR analysis are based on data collected nationwide, for a variety of land use categories. The ITE generation rates provide an average estimate and are recognized as a useful standard measure of potential vehicle trip generation for particular types of land use. The p.m. peak hour average trip generation rate used in the DEIR for the community center is from the ITE publication. The community center trip generation rate of 1.75 trips per 1,000 square feet represents the estimated number of vehicle trips that would be expected during the peak hour of commute background traffic. The p.m. peak hour for the community center itself (outside the peak commute hour) would be 2.26 trips per 1,000 square feet.

The EIR is required to analyze the effects of project generated traffic on the peak commute hour, because this is when traffic is at its highest (worst case) levels.

COMMISSIONER HEITKAMP

A-20 A traffic signal at Piper Park and Doherty Drive is the only measure that would allow the intersection to operate at acceptable peak hour LOS (LOS D or better) under cumulative conditions (see Impact 4.7-13 and Mitigation Measure 4.7-13 in DEIR). Additional turn-lanes at this location may improve overall operations, but would not raise the operations to LOS D or better. As indicated in the DEIR, it is the left-turn movements that fail at this location, and they do so based on the addition of a fairly small number of vehicles.

Utilizing flashing signals at this location would serve to heighten driver awareness of park driveway traffic, but would not result in a capacity or delay improvement; therefore, the use of flashing signals would not improve the LOS to acceptable levels. A signal that operates only during peak demand periods is possible; however, this type of measure is not often used. The concern with the temporary device is that it can lead to driver confusion or neglect where the signal is sometimes not anticipated and, therefore, not obeyed. Predictability is an asset in terms of traffic control devices. Another concern is that the intersection overall does not meet general traffic signal warrants as developed by Caltrans. Placement of a signal at Piper Park would generally be discouraged by Caltrans given the proximity of the Larkspur Plaza intersection (proposed signal) and the Magnolia Avenue intersection (existing signal) on Doherty Drive (see DEIR Page 4.7-45). If the signal is not built at this intersection, the cumulative impact would be significant and unavoidable.

A-21 As with the Piper Park/Doherty Drive intersection (see response to Comment A-20), a signal that operates only during peak demand periods at the Magnolia Avenue/King Street intersection is possible; however, this type of measure is not often used. The concern with such a temporary device is that it can lead to driver confusion or neglect where the signal is sometimes not anticipated and, therefore, not obeyed. As noted in the DEIR, installation of this signal is mitigation for Impacts 4.7-3 and 4.7-10, and is already a TIF program improvement.

A-22 The Specific Plan includes two Doherty Drive intersections to provide an alternative (emergency) access to Subarea 3 should one of the driveways be blocked, not to provide a mitigating effect on traffic congestion.

Removing the project driveway to Doherty Drive from the east end of Subarea 3 would not result in acceptable peak hour LOS operations at Piper Park / Doherty Drive. The unsignalized T-intersection would continue to operate at LOS D (unacceptable for unsignalized intersections) under cumulative conditions with or without project-generated traffic. In terms of traffic distribution, the proposed signalized access intersection at Larkspur Plaza alone would have adequate capacity to accommodate all

peak hour traffic trips that would be generated in Subarea 3. If the project internal circulation system was changed so that all traffic to Subarea 3 used only the one signalized intersection at Larkspur Plaza, the A.M. and P.M. peak hour operations would continue to be in the LOS B range.

A-23 The text on DEIR Page 2-1 is revised as follows:

Page 2-1, Fifth Paragraph is revised as follows:

"Historically, the Specific Plan area was occupied by the Coastal Miwok Indians, and supported ranching and farming operations in the 19th century. The Niven Nursery, in the eastern portion of the Specific Plan area, dates back to the early 1920s. The railway station and warming house were built in 1929 to replace the original Northwestern Pacific Railroad station, which was built in 1891. The building that is now the American Legion hall was built sometime before 1909."

Page 4.11-5, Last Paragraph (and continuing to Page 4.11-6) is revised as follows:

"The buildings that once housed the Northwestern Pacific Railroad station and warming house located in the southwestern portion of the Specific Plan area were built in 1929 to replace the original Northwestern Pacific Railroad station, which was built in 1891, and were used to support railroad operations until the station was closed in 1941."

These changes are reflected in Chapter 3, Revisions to the DEIR.

A-24 **Page 2-5, Second Paragraph is revised as follows:**

The area surrounding the Specific Plan area is completely developed, consisting of a tennis club, middle school, police station, Larkspur Boardwalk, and public park on the north side of Doherty Drive; a high school district corporation yard on the east side of Larkspur Creek; low- to medium-density residential units to the south; and downtown commercial and office uses to the southwest and west.

These changes are reflected in Chapter 3, Revisions to the DEIR.

B

LARKSPUR PLANNING COMMISSION MEETING
MINUTES OF FEBRUARY 3 2004

The Larkspur Planning Commission was convened at 7:30 p.m. in the Council Chambers by Chair Ratner.

Commissioners Present: Chair David Ratner, Commissioners Monte Deignan, Helen Heitkamp, Chris McCluney, Jeff Stahl

Staff Present: Nancy Kaufman, Planning Director

OPEN TIME FOR PUBLIC EXPRESSION

No one spoke during this time.

PLANNING DIRECTOR'S REPORT

- The City Council will consider the revised Draft Housing Element, the Omnibus Ordinance, and the Fire Safety Resolution at their February 4th meeting.
- She distributed letters received by staff regarding tonight's agenda item.
- She asked members of the audience to fill out "speaker slips".

AGENDA ITEM

PUBLIC HEARING

1. SP 01-100: REVISED DRAFT ENVIRONMENTAL IMPACT REPORT ON THE CENTRAL LARKSPUR SPECIFIC PLAN
(This item was continued from January 14, 2004)
Project Location: Project site encompasses 22-acres bordered by Magnolia Avenue on the west East Ward Street, Meadow Drive, and Larkspur Creek on the south; Larkspur Creek on the east, and Doherty Drive on the north. In addition, the project site includes the entire Doherty Drive right-of-way from Magnolia Avenue east to the City limit (5.58 acres). Initiated by the City of Larkspur. Project Description: The Central Larkspur Specific Plan is a comprehensive plan for development in the project area. The Specific Plan addresses the following issues: the distribution, location and intensity of land uses, including open space; the location and capacity of major infrastructure systems, including transportation, sewerage, and stormwater drainage; standards and criteria for development and utilization of natural resources; and implementation measures. The Specific Plan envisions development of mixed-use retail, residential development and public parking, fronting on Magnolia Boulevard. Approximately 85 residential dwellings would be developed on the eastern two-thirds of the property. The project includes amendments to the General Plan and the Downtown Specific Plan, adoption of the Specific Plan, and rezoning of Subarea 3, the

Niven Property, to Planned Development District, with the adoption of the Specific Plan as the Preliminary Development Plan.

Chair Ratner stated the purpose of the hearing was to receive comments on the adequacy of the Environmental Impact Report in identifying and analyzing the possible impacts of the Specific Plan on the environment and ways in which they may be mitigated. It is not to discuss the pros and cons of the Specific Plan. Written comments should be submitted by 5:00 p.m. on February 12th. He stated the consultants from EDAW were not able to attend the meeting due to a traffic accident on Highway 80.

Chair Ratner opened the Public Hearing.

Ms. Marianne Rafter, Echo Place, member of the Larkspur Library Board of Trustees, made the following comments:

- The Library Board members noticed there is no specific mention in the Draft EIR of having a new library building in any of the subareas. In the various drafts of the CLASP, a new library was mentioned as a possibility.
- The Library Board would like to ensure that the wording in the draft and final EIR provides for the possibility of adding a library in one of the designated subareas. B-1
- Ms. Rafter provided staff a written copy of her comments (one page).

Ms. Kathleen Geal, Ward Street, made the following comments:

- There were three areas that were not adequately researched: 1) hotel- the different scenarios include a hotel and there is not data or market analysis supporting the need for a hotel, 2) B-2 traffic- the impact to Rice Lane and Ward Street has not been considered; when the properties develop more people will use Rice Lane to get to Cane Street; there will be an B-3 increase in traffic and the danger to children and pets on Rice Lane, 3) noise- noise will be a big issue, particularly from restaurant fans and delivery trucks; the existing noise levels B-4 probably exceed the allowable decibel levels for a residential area.

Ms Nancy Wenenger, Elm Avenue, speaking on behalf of the Marin County Bicycle Coalition, made the following comments:

- The Marin County Bicycle Coalition is very happy with the document and that changes have been made that reflect the Coalitions earlier comments. B-5
- They are concerned about parking on the railroad right-of-way and disagree with the conclusion that the impacts will be less than significant. They feel this will significantly impact the view corridors and degrade the environment. Parking on the railroad right-of-way should be prohibited. B-6
- The new bicycle path that will go through the plan area and north of Doherty should be cited in the document as a Class 2 and not Class 3 path. B-7
- Ms Wenenger provided staff with a two-page letter from the Coalition.

Mr. James Holmes, Madrone Avenue, made the following comments:

- He distributed a 4-page letter addressing some technical points. B-8

- There is the potential to lose National Register Listing in the downtown area if the number of buildings developed disrupt the ratio of historic to non-historic.buildings. This is a potentially significant impact that is not mentioned in the Historic Resources Section. B-8 Cont'd
- There are some loaded terms in the document, such as "fair share," when referring to regional housing needs. He felt this was a value-laden term that assumes facts not in evidence and he would suggest more value neutral terms, such as "State mandated housing." The term used for one of the alternatives, "residential focus", was a euphemism and should be replaced by the term "high density". B-9
- The document had a lot of good information about the plan but "ran out of gas" at the end when the other alternatives were analyzed. They did not differentiate between the impacts of those alternatives in two respects- the population impact and the visual/aesthetics impact. These impacts should be looked at in terms of the immediate area rather than the entire City. In terms of the visual analysis, there is a big difference between tall structures and lower structures with landscaping. When comparing to surrounding uses, there are different types of uses in the area and it depends on which ones are looked at. Relative to density, the size of buildings makes a difference. Tall buildings across from the Blue Rock with create a canyon affect. The EIR has to be more discriminating and differentiating in these areas. B-10

Chair Ratner closed the Public Hearing.

Commissioner Stahl provided the following comments:

- He made his comments at the last meeting. B-11

Commissioner Heitkamp provided the following comments:

- The National Register rating is a concern and the downtown area must maintain certain ratios of contributing to non-contributing buildings. B-12
- The Draft EIR was discussed at the last Heritage Preservation Board meeting and the Board will be submitting a letter with comments. B-13

Commissioner McCluney provided the following comments:

- He was satisfied with the document as written. B-14

Commissioner Deignan provided the following comments:

- There were some very good comments from the public. B-15
- He agreed with the comments regarding the potential for a change in the character in the downtown area.
- He was concerned about the height and visual impact issues. B-16

Chair Ratner provided the following comments:

- The document was adequate in terms of a description of the project.
- He was pleased they were making progress.
- He asked staff to take the matter under advisement and bring back a Final EIR the Commission can act upon and forward to the City Council. B-17

Planning Director Kaufman reiterated that the deadline for written comments was February 12th at 5:00 p.m.

Chair Ratner thanked everyone for his or her comments.

BUSINESS ITEMS

1. Commissioner's Reports
There were no reports.

The meeting was adjourned at 8:00 p.m.

Respectfully submitted,

Toni DeFrancis
Recording Secretary

MS. MARIANNE RAFTER (LARKSPUR LIBRARY BOARD OF TRUSTEES)

B-1 As described on Page 2-12 of the DEIR (Chapter 2, Project Description), Specific Plan Land Use Policy 13 (Parking Lot to Be Retained) states that it is the City's policy and intention to maintain and operate the public parking lot in its current location in Subarea 1. However, to retain flexibility in future land use decisions, Land Use Policy 13 also states that the City may sell or trade the parking lot for conversion to one or more uses, including a public library. It is noted that the development of a library has neither been formally proposed nor is it imminent. As with other future development in the Specific Plan area, development of a library would require additional site-specific environmental analysis, in compliance with CEQA and the State CEQA Guidelines.

MS. KATHLEEN GEAL

B-2 The Specific Plan provides a framework for developing 22 acres in and adjacent to Downtown Larkspur. Among the possible uses is a hotel, a use which is encouraged in the Specific Plan (see DEIR Pages 2-8 to 2-12). The DEIR analyzes the potential impacts of a hotel and other possible land uses; however, the Specific Plan does not propose the development of any individual project. Instead, subsequent development projects would be proposed by project applicants presumably based, in part, on market demand. The purpose of the DEIR is to analyze the potential significant environmental effects of adopting the proposed Specific Plan. Because the Specific Plan is a set of policies designed to facilitate the redevelopment of the site, the DEIR is a Program EIR that assesses, in a broader fashion, the environmental impacts that may be associated with implementation of the Specific Plan. It is expected that this EIR will be used as a first-tier document, and that the City will conduct project-level environmental review of individual projects, including elements that cannot be known at this time.

B-3 The impact of traffic generated from the project to Ward Street is considered in the DEIR in terms of peak hour operations. The DEIR states that the intersection of East Ward and Magnolia Avenue will experience significant impacts because of project traffic and recommends a number of measures to mitigate the impacts.

The City selected roadways for analysis in the DEIR traffic study based on the likelihood that an intersection could be affected by project traffic. Study areas are typically identified by staff with a familiarity of local traffic and circulation conditions and issues in the vicinity of the proposed project development. The roadways and intersections selected and analyzed in the DEIR are representative of the traffic conditions in the study area. Rice Lane is a one-way (southbound) road in the immediate vicinity of the project site and has a very narrow right-of-way. Rice Lane

was not evaluated in the DEIR in terms of operations because it was not considered to provide enough carrying capacity to attract a significant number of either pass-by vehicles or project-generated vehicular trips.

B-4 Currently, trucks regularly travel to and from the Specific Plan area for delivery of goods to the supermarket and other businesses. Impact 4.8-1 in the DEIR identifies potentially significant noise impacts resulting from Specific Plan development. Noise-sensitive land uses would be protected from excessive noise through implementation of Mitigation Measure 4.8-1.

With additional commercial development in the Specific Plan area, the number of delivery trips to the Specific Plan Subareas 1 and 2 may increase. Although estimates of commercial delivery trips per square foot of floor area in Larkspur or Marin County in general are not available, data from City and County of San Francisco Transportation Impact Analysis Guidelines (Appendix F-6) may be illustrative. According to these guidelines, Specialty Shops generate 0.18 delivery trips per 1,000 square feet of floor area per day, and Hotel generates 0.09 trips per 1,000 square feet of floor area per day. Thus, the Specific Plan's proposed 51,065 square feet of new retail uses (specialty shops) would generate approximately 9 delivery trips per day and 18,000 square feet of hotel would generate 2 trips per day. Approximately 11 delivery trips per day would be generated at maximum buildout of the Specific Plan.

New development may also introduce new stationary sources of noise (e.g., ventilation fans, other mechanical equipment) in the Specific Plan area. City of Larkspur Municipal Code Chapter 9.54 establishes noise standards, including standards for noise from restaurant fans and delivery trucks. With certain exceptions (e.g., outdoor gatherings, emergency work) it is unlawful to create noise that would cause a residential land use to receive noise, for more than 30 minutes per hour that is above 50 dBA from 7 AM to 10 PM and 40 dBA from 10 PM to 7 AM. New development is reviewed for compliance with this standard in the environmental review and/or permitting processes. Minor development projects, such as small commercial remodels with new ventilating equipment, may be exempt from environmental review, but are nevertheless checked for compliance with this standard as part of the Building Permit application process. Similarly, residential development proposals are reviewed for compliance with the noise standard. If environmental review determines that new residential development may be affected by noise from preexisting uses that exceed the standard, modification to the proposed development is required to meet the standard. Such modification may include, but is not limited to, locating residential buildings so that the new structure creates usable outdoor areas that are shielded from the preexisting noise source. Given that compliance with the City's Noise Ordinance would be required and that the Specific Plan would not generate a substantial number of delivery trips, no noise impacts associated with mechanical equipment and delivery are expected.

B-5 Comment noted. No further response is necessary.

B-6 The Specific Plan would require that adequate parking supply is constructed based on the ultimate amount and type of land use constructed in the Specific Plan area. The DEIR analysis finds that the Specific Plan as proposed would allow for a quantity of onsite parking spaces that would satisfy Specific Plan requirements, meet projected demand and replace on-street spaces that may be lost because of traffic mitigation measures. Because this railroad right-of-way is not part of an identified scenic view corridor or vista, parking in this area would not result in a significant visual impact. When plans for project parking facilities are developed and submitted to the City for evaluation, issues related to costs, aesthetics and other elements will be weighed and factored into the final design and construction. Also, as noted in Figure 7-10 of the Specific Plan Design Policies and Standards for Subarea 1, a landscaping buffer would be required between the parking and the bike path.

B-7 The Specific Plan identifies the bicycle path through the Specific Plan area and north of Doherty Drive (along Larkspur Plaza Drive to Magnolia Avenue) as a Class 1 bikeway (Specific Plan Transportation Policy 20 [North-South Regional Bikeway]). The Specific Plan also states that all bikeways within the Specific Plan area shall meet Class 1 bikeway standards (Specific Plan Transportation Standard 9 [Standards within the Plan area]). Responses to the Coalition's letter are provided under Letter N of this FEIR.

JAMES HOLMES

B-8 Subarea 1 is in a portion of the downtown area, which is listed on the National Register of Historic Places. As stated on Page 4.1-3 of the DEIR, to maintain Downtown's listing on the National Register, a ratio of two contributing structures for every one non-contributing structure must be maintained in the historic district. Contributing structures are structures that are either historically or architecturally significant. Historic significance includes association with the life or activities of a major historic person, organization, or event. Architectural significance can involve many factors, including whether a structure is one of many good examples in the city of a particular style or period.

As stated on page 4.11-3 of the DEIR, the Northwestern Pacific Railroad station and tracks, located on the southwestern (Subarea 1) portion of the Specific Plan area, are contributing elements to the Downtown Larkspur National Register Historic District. These structures, including the former railroad station and the warming house, would remain in their present location and would be preserved to protect their historic value under the Specific Plan. In addition, the Specific Plan (Community Design Policy 36) calls for retaining the historical American Legion hall, also located in Subarea 1. These historic buildings would be used in a manner that would contribute to the vitality of adjoining development and immediately surrounding community-serving outdoor spaces.

The proposed development in Subarea 1, which would add non-historic structures, would not cause downtown Larkspur to lose National Register listing because it would

not decrease the number of historic buildings in the district below the required ratio. The downtown Larkspur National Register Listing currently includes 37 contributing historic buildings and 12 noncontributing and non-historic buildings; thus up to 6 new buildings may be constructed in the Specific Plan area without exceeding the required ratio (Pendoley 2004). In addition, new structures that would be constructed under the Specific Plan would be constructed to complement and respect Larkspur's small town character and historic downtown (Specific Plan Goal 4, Community Design). Therefore, the Specific Plan would not cause the Larkspur downtown to lose National Register Listing and no significant impact would occur.

B-9 "Fair Share housing" is an official term used for housing obligations assigned to counties and cities by the local council of governments, which in the Bay Area is the Association of Bay Area Governments (ABAG), under the California housing element law. The California housing element law is intended to ensure that there is a sufficient supply of new housing to keep pace with population and job growth. By law, every city and county in California is to have an approved general plan housing element, which includes among other things, an acknowledgment of their regional "fair share" of new housing production, as identified by ABAG, and an identification of sufficient zoned land to meet demand. The current production targets for the City, known as the Regional Housing Needs Determination (RHND) were identified by ABAG in the Projections 2002 (December 2001) report, and cover the period between January 1999 and June 2006 as reported in Table 4.2-1 of the DEIR. As described on page 4.2-6 of the DEIR, the development of 132 housing units, as proposed under the Specific Plan, could meet up to 43.6% of the City's regional housing need allocation (303 units) between 1999 and 2006. For this reason, the use of the term "fair share housing" is appropriate.

The term "residential focus" refers to the Residential Focus Alternative described in Chapter 6 of the DEIR. The Residential Focus alternative proposes residential densities that would be higher than those anticipated under the Proposed Project, but it is not "high density" because it includes less commercial development than all other alternatives.

B-10 It is standard practice to compare a project's impacts against the lead agency's entire jurisdiction to identify an overall percent change in population. As identified in Impact 4.2-1, the residential population generated in the Specific Plan area would represent approximately 2.2% of the City's current population, and the General Plan anticipated the development of housing in Subarea 3. The residential development could also meet up to 43.5% of the City's regional housing need allocation between 1999 and 2006. The analysis of housing and population on a city-wide level is consistent with other project impacts analyzed throughout the DEIR, such as traffic, public services, and utilities, which have potential city-wide impacts and are, therefore, analyzed at a city-wide level.

With regard to visual impacts, future development and the associated change in visual character under all three alternatives must comply with the policies and standards (i.e., limits on building height, landscaped buffer along commercial development, building design, zoning standards, ground-level façades, pedestrian-scale details, materials) in the Specific Plan that are designed to minimize visual incompatibility between new development and existing buildings in the downtown area. It is noted that these policies and standards are consistent with those in the Larkspur Downtown Specific Plan. While the Specific Plan area may ultimately be developed at different densities under the alternatives, the difference in the resulting visual impacts (e.g., potential interference with scenic vista, potential damage to scenic resources, and potential degradation of visual character) would not be substantial given compliance with the policies and standards. (See Impacts 4.10-1 and 4.10-3.)

COMMISSIONER STAHL

B-11 No response is necessary.

COMMISSIONER HEITKAMP

B-12 Please refer to responses to Comment B-8 and B-10.

B-13 The Larkspur Heritage Preservation Board submitted written comments in a letter dated February 5, 2004, Comment Letter O. Responses to the comments submitted by the Board are included in this document.

COMMISSIONER MCCLUNEY

B-14 Comment noted.

COMMISSIONER DEIGNAN

B-15 Comment noted. Please refer to response to Comment B-8.

B-16 The visual quality and aesthetic issues related to implementation of the Specific Plan are addressed in Section 4.10, Visual Quality and Aesthetics, of the DEIR. As presented in Impact 4.10-3, Specific Plan development would result in a change in visual character, but not in a degradation of the visual character. This determination was based on Specific Plan policies identified on pages 4.10-9 through 4.10-11 of the DEIR related to building design and design elements, storefront downtown standards, building location and height, pedestrian-oriented frontage, neighborhood design, and other elements that ensure the continued protection of the visual quality of the downtown area. Commercial and residential development under the Specific Plan would be subject to Community Design Policies 3 (Focal Point), 4 (Linkages to the Surrounding Area), 7 (Building Design), and 8 (Landscape Character) as well as subarea policies and standards, all of which are intended to preserve the visual character of the downtown area. Therefore, although implementation of the Specific Plan would result in a change

in visual character, it would not result in a degradation of the visual character and does not represent a significant adverse impact.

CHAIR RATNER

B-17 Comment noted.

C

December 9, 2003

Robert Pendoley, Project Manager
Planning Department
City of Larkspur
400 Magnolia Avenue
Larkspur, CA 94939

GOLDEN GATE
HIGHWAY & TRANSPORTA

Re: Central Larkspur Specific Plan and the Revised Draft Environmental Impact Report

Dear Mr. Pendoley,

Golden Gate Bridge, Highway and Transportation District (District) staff has reviewed the Central Larkspur Specific Plan (CLASP) and the Revised Draft Environmental Impact Report (EIR), both dated November 2003, and provides the following general comments and comments regarding potential impacts on Golden Gate Transit (GGT) bus services.

The study area is well served by GGT bus service. New development proposed in the Specific Plan should facilitate use of this service and avoid any obstacles to its use. Objective T-2 calls for "An integrated system of pedestrian and bicycle routes within the Plan area with convenient links to…public transit stops." The Specific Plan should acknowledge bus stops located on Magnolia Avenue near Ward Street and assure easy access to these stops from the study area.

According to the study, two existing bus stops on Doherty Drive will be relocated and constructed with full turn-outs. The eastbound stop will be farside Larkspur Plaza Drive. It is shown as Figure 5-3 but not discussed in text. The westbound stop, which serves Hall Middle School, will be nearside Larkspur Plaza Drive located in what is now the mouth of the existing driveway to Hall Middle School. This driveway will be relocated to intersect Larkspur Plaza Drive. District supports provision of well-designed bus stops at an intersection with a signalized crosswalk, and requests that it be permitted to review site plans for these stops before they are finalized. C-1

District is interested in pedestrian and bicycle circulation improvements within the plan area. Such improvements will enhance access to public transit, and encourage residents to use alternative transportation modes. This is particularly important in a location near the center of a commercial district with so many trip generators within walking distance.

It is important that engineering analysis of streets and intersections consider bus operations. District staff would be pleased to work with city staff in its efforts—in particular, the provision of bus stops. Please call Harvey Katz, Senior Planner, at 257-4416 if we may be of assistance.

Very Truly Yours,

Alan Zahradnik

Alan R. Zahradnik
Planning Director

c: Harvey A. Katz, Senior Planner
H/P/G/HK/CentralLarkspurPlan&DEIR.123.doc

C-1 The Golden Gate Bridge, Highway and Transportation District (District) states that the Specific Plan should acknowledge the bus stops, located on Magnolia Avenue near Ward Street, which serves the Specific Plan area. The FEIR incorporates text revisions to reflect these existing bus stops.

Page 4.7-12, Fourth Full Paragraph is revised as follows:

Scheduled transit service in Larkspur is provided by Golden Gate Transit and includes local and regional bus service between the North Bay and San Francisco, and ferry service to San Francisco. Bus stops located on Magnolia Avenue near Ward Street provide the nearest access to bus services from the Specific Plan area. Ferries depart from the Larkspur Ferry Terminal, and are serviced by ferry shuttle buses (free for ferry passengers).

In regard to the relocation and new construction of bus stops on Doherty Drive, the District supports the provision of well-designed bus stops and requests that it be permitted to review site plans for the stops before they are finalized. This comment is acknowledged. The City and project sponsors will be required to consult directly with the District if development in the Specific Plan would require modifications to District facilities or operations.

Comments regarding interest in pedestrian and bicycle circulation improvements are noted. No further response is necessary.

D

Sanford and Carol Svetcov
53 Meadowood Drive
Larkspur, CA 94939

December 22, 2003

Mr. Robert Pendoley, Project Manager
Planning Department
City of Larkspur
400 Magnolia Avenue
Larkspur, CA 94949

Re: Comments on Revised Draft EIR Central Larkspur Specific Plan

Dear Mr. Pendoley:

I write to oppose the proposed project and urge the City Council to adopt the lower density alternative. The proposed project contemplates 85 residential units, including 58 market-rate and 27 affordable units. (ES-5) D-1

The EIR considers a lower density alternative of 57 units, including 45 market units and 12 affordable units. (EIR 15-5) This alternative is consistent with the "less than" 45-unit project proposed by the Niven site developer on September 30, 1998. As the developer acknowledged, the traffic impact of a 45-unit plan will be one-half that of the General Plan. The developer viewed its lower density 45-unit proposal as a "win-win" for all concerned and requested a response from the City. To date, the undersigned has not seen any written response from the City. A copy of the developer's proposal to the Larkspur City Manager is enclosed as Exhibit A. I request that this letter and Exhibit A, and any response, be made part of the administrative record. D-2

The EIR concedes that the "Lower Density" alternative would be regarded as "environmentally superior" to the proposed project – including lower "traffic-related air pollutants" and "lower exposure to seismic hazards." (EIR 15-18) The only "negative" factor identified in the EIR as to the "lower density" alternative is that it would make "less of a contribution" than the proposed project in meeting the City's "fair share" of regional housing needs. D-3

The EIR concedes, however, that there are far more significant environmental impacts produced by the proposed project than the lower density alternative – most notably "***additional traffic***" at various intersections where there is already an "***unacceptable level of service***." (Impacts 8.1-8.9) The mitigation measures for the proposed project are said to improve the service to acceptable levels. (*Id.*) But the effectiveness of such measures is entirely conjectural and lacking in factual support in the record. D-4

Given these concessions, the potential environmental impacts of the proposed project as compared to the lower density alternative, particularly the project's significant traffic impacts – even as mitigated – far outweigh the need for 28 additional housing units. The D-5

lower density alternative provides 12 affordable units and better balances the traffic impact. Accordingly, the City should adopt the lower density alternative. D-5 Cont'd

Very truly yours,

Sanford Svetcov

SS:tjl
enc.

LARKSPUR HOUSING PARTNERS, LLC
31 La Vista Court ■ Walnut Creek ■ CA ■ 94598 ■ Phone (510) 939-4650 ■ Fax (510) 939-0313

Memorandum

To: Jean Bonander, City Manager
City of Larkspur

CC: Lee Newell
Jan Vasquez
Karlena Palomares
Cynthia Niven
Robert Odermatt

From: Steve Seeley
Larkspur Housing Partners

Date: 09/30/98

Re: Niven Property Specific Plan Concept

As we reviewed in our meeting today, the Niven family first began the process of preparing the Specific Plan for their property some two and one half years ago. The process has included many discussions with the staff, joint meetings with the adjoining commercial property owners, design workshops with the Council and Planning Commission, the Citizens Advisory Committee process and currently the Council hearings. We believe that we have a very good understanding of the CAC's goals, and in general, we are in agreement with the Goals. Through the CAC meetings and the recent Council hearing there seems to be a consistent theme throughout the community comments. The major concerns appear to be the traffic, the density of development (mostly as it relates to traffic) and the desire to have the opportunity to poll the community to see if they would support the purchase of a portion of the land for a community purpose.

With more than two and a half years invested to date in the planning, it is important that we now proceed with the submittal of Specific Plan application according to our previously discussed schedule. By way of this memo we are outlining a concept for the Specific Plan that we believe meets the needs of the City and the Larkspur Community. The enclosed plan diagram graphically depicts a concept with significantly lowered density and the opportunity for the City to purchase a portion of the site for one or more community uses.

- Larkspur Housing Partners will make available to the City of Larkspur the opportunity to purchase approximately four +/- acres of land along Doherty Drive and east of the Larkspur Plaza Shopping Center. The agreement will allow the City time to determine community needs, plan appropriate uses for the site and

- determine a method to finance the purchase of the land. Based upon the community input heard to date those uses might include: passive open space, active open space, parking, community center, commercial expansion or affordable workforce housing.

- A one and one half-acre parcel will remain in the title of the Niven family and be located on the western edge of the property adjacent to Ward Street. The intent of the family is to construct a new wholesale/retail nursery. In other words, they intend to continue the existing use of the site in a modern, economic facility. The nursery site will provide a transitional use between the downtown and the new residential neighborhood.

- A pedestrian/bicycle corridor will be provided through the site to link the railroad ROW bike path and Ward & Meadowood to Hall Middle School at Doherty Drive. Larkspur Housing Partners will donate parklands to meet the needs of the residential neighborhood according to the recently passed Park Dedication Ordinance.

- The use for the balance of the site will be for a low-density residential neighborhood in accordance with the City's General Plan. A residential neighborhood of less than 45 units will follow closely the traditional residential density and design of the Meadowood and Monte Vista neighborhoods. The traffic impact of this proposed neighborhood will be approximately one half of that anticipated under the General Plan and its EIR. Larkspur Housing Partners will provide "transparent" Below Market Rate housing in accordance with the City's General Plan.

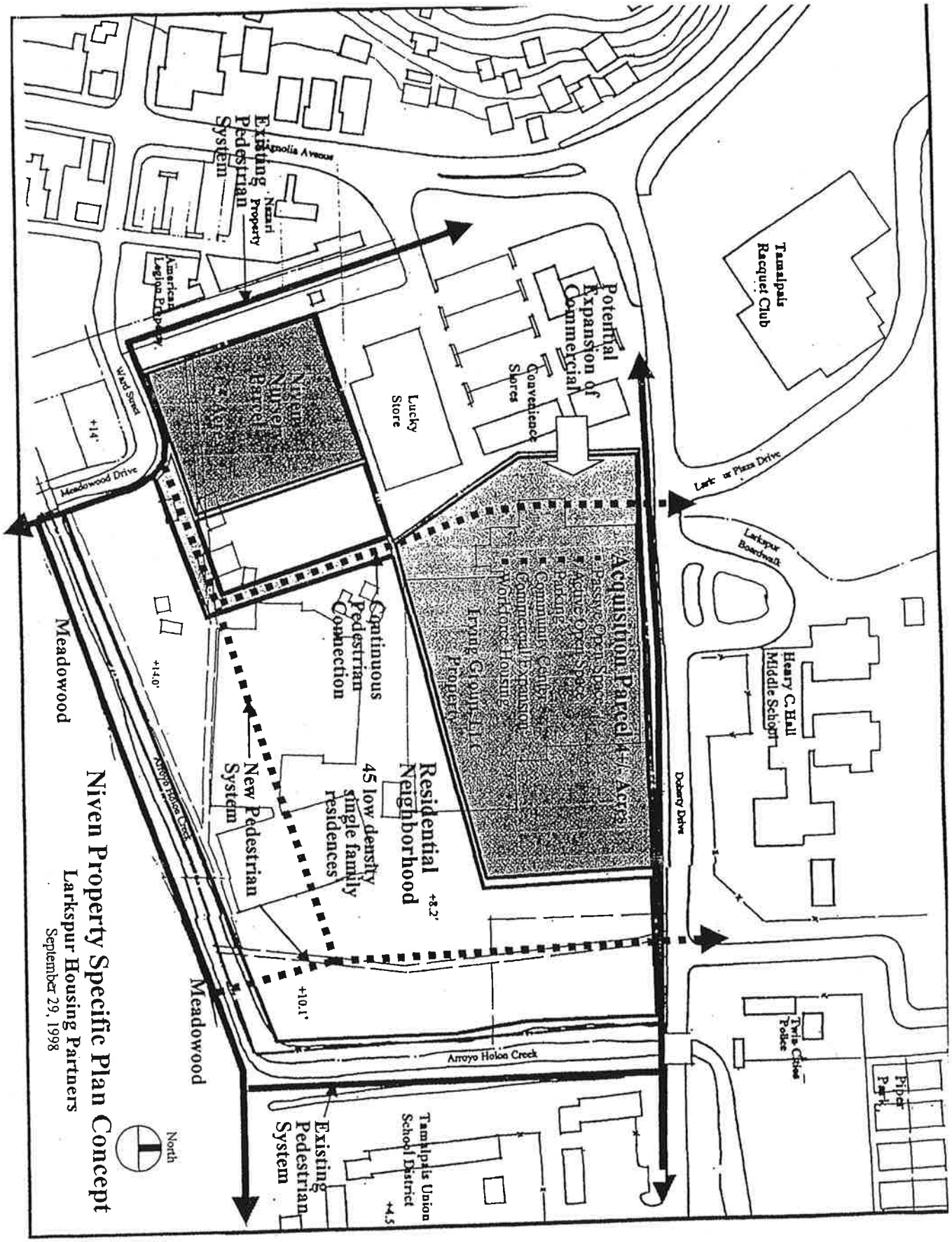
Initial thoughts on the conditions of the agreement to purchase the Acquisition Parcel would include:

- The City will have three years from the submittal of the application to determine the desired land use(s), identify appropriate financing mechanisms and close on the purchase.

- If the City chooses not to purchase the Acquisition Parcel, the parcel would be pre-approved in the Specific Plan process for the development of up to 15 units (exact number to be determined during the preparation of the Specific Plan).

- If the City decides to purchase the Acquisition Parcel, the City would be responsible for any required General Plan, zoning, or EIR changes to accommodate the selected uses.

Jean, we would appreciate your sharing this memorandum with the members of the Council and would appreciate receiving feedback on their responses. We believe that this proposed concept could provide a "win-win" solution for the Council, the community, the developers and the Niven family. We look forward to receiving the responses of the Council.


Niven Property Specific Plan Concept
Larkspur Housing Partners
September 29, 1998
North
Existing Pedestrian System
Nazari Property
American Legion Property
Magnolia Avenue
Ward Street
Meadowood Drive
Meadowood
Meadowood
Arroyo Holon Creek
Arroyo Holon Creek
Niven Nursery Parcel
Lucky Store
Potential Expansion of Commercial
Convenience Stores
Tamalpais Racquet Club
Larkspur Plaza Drive
Larkspur Boardwalk
Acquisition Parcel 4+ Acres
Passive Open Space
Active Open Space
Parking
Community Center
Commercial Expansion
Workforce Housing
Irving Group, LLC Property
Continuous Pedestrian Connection
Residential Neighborhood
45 low density single family residences
New Pedestrian System
Existing Pedestrian System
Tamalpais Union School District
Henry C. Hall Middle School
Doherty Drive
Twin Cities Police
Piper Park
+14'
+14.0'
+10.1'
+8.2'
+4.5

D-1 Comment noted. As no environmental issues are raised, no further response is necessary.

D-2 As discussed beginning on page 6-6 of the DEIR, the Low Density Alternative would generate fewer daily and peak hour vehicle trips than the Specific Plan as proposed. However, as noted on page 6-24, this alternative would not avoid the project's significant, unavoidable impacts. The comment regarding a prior concept letter does not pertain to the adequacy of the DEIR. No further response is necessary. It is noted that the FEIR includes the letter and its attachment, as requested.

The first set of approvals to be considered by the Planning Commission and the City Council will include amendments to the City of Larkspur General Plan (General Plan) and the Larkspur Downtown Specific Plan, adoption of the Specific Plan, and rezoning of Subarea 3 to Planned Development District, with the adoption of the Specific Plan as the Preliminary Development Plan. It is also noted that the City Council, rather than the City Manager, will be deciding whether or not to approve and implement the Specific Plan.

D-3 The comment correctly characterizes the conclusions of the DEIR alternatives analysis. No further response is necessary.

D-4 The mitigation measures proposed in the DEIR are standard engineering solutions and include such actions as the installation of traffic signals (e.g., Mitigation Measures 4.7-1, 4.7-3, 4.7-8, 4.7-10, and 4.7-13) and the increasing of intersection capacity either with the addition of a turn-lane or an adjustment to an existing signal phasing plan (e.g., Mitigation Measures 4.7-2, 4.7-9, 4.7-11, and 4.7-12). The proposed mitigation measures are designed to improve intersection operations.

The estimates of peak hour traffic were analyzed using industry standard Highway Capacity Manual (HCM) methodologies. The HCM methodologies for intersection analysis provide a good means of measuring the peak hour operations of an intersection and the relative effectiveness of a proposed mitigation measure. Based on the results of traffic modeling, DEIR Table 4.7-14 shows the levels of service following the implementation of mitigation measures. Traffic modeling data supporting the DEIR mitigation effects is contained in the DEIR, Volume 2 – Technical Appendices, Appendix F-2 – Detailed Calculations of the Intersection LOS Analysis. The latter portion of the F-2 includes level of service computation reports for the various project scenarios as mitigated. Finally, all of the proposed mitigations are typical of roadway improvements elsewhere in the city and are expected to be successful in the opinion of the City's traffic engineer.

D-5 The comment is noted and can be considered by the City in its decision whether or how to approve or carry out the project.

E

D. Theodore N. Preovolos
399 Riviera Circle
Larkspur,Calif.94939

7Jan2004

The City Of Larkspur:
Larkspur Planning Commission
400 Magnolia Ave.
Larkspur,Cal 94939

To Whom It May Concern:

I am writing this letter in regards to the proposed development of the Niven Property. My major concern is the traffic that will be created.

I would strongly urge you to develop an additional artery, so that the traffic flow that the additonal residents and the commercial development will create will be of a minimal nature. The most logical step would be to develop Wornum Drive. The two existing schools create a traffic problem as is, and the safety of the children with additional traffic will only increase the probability of potential accidents. E-1

I have spoken to many of the Larkspur residents and all are in agreement that developing the Wornum Drive into a thoroughway street would be the most acceptable procedure.

I sincerely hope that you will study this possibility from a practical view point and not allow any political or economic pressures to influence you.

Thank you for your attention to this matter.

Sincerely yours,

Dr Preovolos

Dr Preovolos

E-1 The DEIR analyses address safety as well as traffic generation (see Impact 4.7-4). Mitigation measures also address safety and traffic in the school areas (see also, response J-2). Currently, and for the foreseeable future, Doherty Drive is operating well within its design and functional capacities such that extension of Wornum Drive would not be warranted. Doherty Drive carries approximately 11,000 vehicles daily and approximately 1,000 vehicles during the peak commute hours. The roadway does experience two additional 20-minute periods of heavy weekday congestion related to high school and middle school operations, but this level of documented congestion would not be sufficient to justify building a parallel alternative roadway.

Wornum Drive currently connects Tamal Vista with Redwood Highway. The extension is not proposed by the City, and is not required as a mitigation measure; therefore, it is not evaluated in the DEIR, nor addressed further in these responses.

COUNTY OF MARIN

DEPARTMENT OF PUBLIC WORKS

P.O. Box 4186, San Rafael, CA 94913-4186 (415) 499-7877 FAX (415) 499-3724

F

Farhad Mansourian, RCE
Director

MEMORANDUM

January 9, 2004

TO: Robert Pendoley, Project Manager
CC: Liz Lewis, Marin DPW Flood Control & Water Conservation District & MCSTOPPP

FROM: Dave Nicholson, Marin DPW Flood Control & Water Conservation District & MCSTOPPP

RE: Comments on Central Larkspur Specific Plan

The follow are comments of the Central Larkspur Specific Plan Draft EIR with respect to **stormwater pollution prevention.** We support and commend your plan to use grassy swales, retention basins and more pervious surfaces where practicable to manage and/or control pollution runoff at the proposed project site for perpetuity. Job well done. F-1

F-1 Comment noted.

G

January 11, 2004

43 Murray Avenue
Larkspur, CA 94939

Mr. Robert Pendoley
Larkspur Planning Department
400 Magnolia Avenue
Larkspur, CA 94939

Dear Mr. Pendoley:

As a resident of Larkspur for the past twenty-five years, I am writing to you at this time to express deep and grave concerns regarding the planned eighty-five housing units and retail development plans for the 22 acres around Magnolia Avenue and Dougherty Drive.

I am adamantly opposed to this plan and will work tirelessly within my community to defeat it. It does not take someone with prescient skills to see quite clearly the increased congestion that has befallen this community over the past half dozen years. While I am sure that new housing brings in substantial new taxes to the community, it also places undue pressure not only on existing commuters, but anyone who ventures Larkspur's streets, whether by car or on foot. It is time for all city planners (not just in Larkspur) to realize that growth merely to generate a bigger tax base is neither wise nor logical. Granted, adding houses will generate more money. Yet, it also increases the pressure on schools, roads, and other public services, which, in turn, means that we need even more taxes to pay for these things. That need, in turn, creates an incentive to build more houses. It is an endless, insidious, and completely insane cycle. Will there ever be a time when cities and towns reconcile their population with their tax base? It has to start somewhere. Why not here? G-1

This plan is a bad idea and should be abandoned for one that is more logical and better representative of the "small town" community that Larkspur has always prided itself on being.

Sincerely,

Stan Minasian

G-1 The letter expresses opposition to the project and does not comment specifically on the DEIR analysis. The City notes that the commentor's general concerns related to the project's effects on traffic (vehicular and pedestrian), schools, and other public services are addressed in DEIR Chapters 4.7, Traffic and Circulation, and 4.9, Public Services and Facilities. No further response is necessary.

H

Robert Pinckney –

Re: Larkspur Specific Plan -

With development of this land, there will be a significant increase in the rain run-off. This could cause flooding on downstream properties – the Larkspur Marina homes – especially at high tide.

Has the plan addressed this issue?

- Retaining ponds
- Control of water run off

H-1

Gail Connolly
1/20/04

GAIL CONNOLLY
520 RIVIERA CIRCLE
LARKSPUR CALIF 94939

H-1 The potential impacts of rainfall runoff and its effects on localized flooding are evaluated in Section 4.4, Hydrology and Water Quality, of the DEIR. As described, the 100-year rainfall flood event (the flood event that has a one percent chance of occurring in a given year) would be contained within the banks of Larkspur Creek (Impact 4.4-1); development would not substantially increase surface runoff (Impact 4.4-2); and improvements to two culverts in the Specific Plan area would be upgraded and Best Management Practices (BMPs) implemented to correct existing deficiencies (Impact 4.4-3). Flooding impacts would be less than significant.

The Specific Plan also includes the following policies that address control of runoff through detention, and stormwater quality.

Utilities Policy 12 (Subarea 3 Drainage Improvements). Subarea 3 drainage improvements should include onsite grass/vegetated swales and detention areas along the west, south and east edges of Subarea 3 to filter, receive and detain stormwater before discharge into Larkspur Creek.

Community Design Policy 69 (Stormwater). The following standards should be incorporated into the siting of houses to minimize the flow of stormwater offsite and allow bio-filtering of pollutants.

- Standard 73 Grassy Swales. Open space landscape design should incorporate grass swales to provide interim ponding and treatment of first-flush runoff, which carries a high concentration of oils and other pollutants. The open space buffer along Larkspur Creek, the common space around the cottage homes, and the park areas in Subarea 3 all provide opportunities for such swales.

- Standard 74 Stormwater Detention. Retention/detention ponds for holding and gradually releasing stormwater should be incorporated into the open space system of Subarea 3.

The commenter's concern was addressed by Impacts 4.4-1, 4.4-2, and 4.4-3 of the DEIR and Specific Plan policies. All development projects in the Specific Plan area will be subject to the Specific Plan policies. No new analysis is required.

I

Lawrence R. Lanctot
47 Meadowood Drive
January 28, 2004

BY FEDERAL EXPRESS

Mr. Robert Pendolay
Project Manager
Larkspur Planning Department
400 Magnolia Avenue
Larkspur CA 94939

Re: Revised Draft Environmental Report on Central Larkspur Specific Specific Plan dated November 14, 2003 (the "Revised DEIR")

Dear Mr. Pendlolay:

The following are my comments on the Revised Draft Environmental Impact Report dated November 14, 2003 on the Central Larkspur Specific Plan.

In brief, the Revised Draft EIR ("Revised DEIR") fails to consider in any way the significant inconsistency of the proposed project with the Circulation Element of the Larkspur General Plan. The Traffic and Circulation portion of the Revised DEIR states that it is based on traffic counts conducted in May 2003. However, the underlying traffic counts in the Appendices to the Revised DEIR state that the counts were done in March 2003 so it is unclear when the traffic count were actually taken; and more than half of the supporting traffic records in the technical Appendices bear a date of June of the prior year, 2002.

I-1

The analysis of traffic does not convey the serious increases in traffic in Larkspur measured from the baseline data in the General Plan, and it employs methods of traffic analysis which are contrary to the City's recent approval of other large residential developments. The Revised DEIR fails to consider the City's General Plan policies regarding safety and its impact on the proposed traffic mitigations in the Revised DEIR. Finally, in the Revised DEIR casually rejects the Low Density Proposal by referring to the City's housing goals without ever seriously discussing and considering whether those goals can be met other than on the Central Larkspur Specific Plan area as in other ways or on other parcels of property in the City and the advantages of doing so.

I. The Revised EIR Fails to Consider the Inconsistency of the Proposed Mitigations with The General Plan and Downtown Plans Policies Concerning Traffic:

The Revised DEIR discusses the regulatory setting including consistency with the Larkspur General Plan (1990) and the Downtown Specific Plan (1992) and concludes that there is no inconsistency of the proposed Central Larkspur Specific Plan and the General Plan (RDEIR Table 3-1, p. 3-9).

The Revised DEIR states that there would be significant adverse environmental impacts from traffic at the intersection of King and Magnolia Avenues, as well as at Ward and Magnolia Larkspur. (Impact 4.7-2 and 4.7-3) The Revised DEIR proposes a traffic signal at King and Magnolia to reduce the impact of traffic as well as an additional northbound left turn lane at King.

The Revised DEIR fails to consider the policies on circulation in the General Plan which bear directly on the proposed mitigation of a traffic signal at King and Magnolia. The Circulation Element of the General Plan Goal 1 states that the quality of life is more important that the mobility of traffic. (Larkspur General Plan p. 82).

The General Plan discusses the traffic standards for levels of service in Larkspur and then states various policies to carry out the Goals including Goal 1. Policy n of the Circulation Element of the General Plan states that: I-2

"Do *not make any capacity improvements to Magnolia Avenue that would encourage additional through traffic*."(p. 84)

The Plan contemplates but rejects a traffic signal at this location. The General Plan specifically discusses traffic along the "Magnolia Avenue Corridor" and it states that:

"However, the City Council has determined to keep the all-way stops to control the speed and flow of traffic on Magnolia Avenue, and to make it easier for pedestrians to cross." (p.74)

This comment is followed by a specific discussion of a possible traffic signal athe intersection of Corte Madera and Redwood Avenues in *Corte Madera.* It is very clear that the City Council's policy in the General Plan is not to have a traffic signal at King and Magnolia and further not to make "*any capacity improvements to Magnolia Avenue that would encourage additional through traffic*." These General Plan policies clearly preclude the proposed traffic mitigation consisting of a traffic signal at King and Magnolia.

In 1992 The City Council re-affirmed the 1990 General Plan Policy n against capacity improvements on Magnolia which would encourage additional through traffic when it adopted the Downtown Specific Plan. It reiterated Goal 1 that "quality of life in

Larkspur is to be regarded as more important than mobility of traffic." (p. 125) It cites policy j that preserving existing streets and buildings in the Downtown has a higher priority "*than moving traffic through the area.*" It then states:

> "This policy approach has already had clear implications for the Downtown, where the City Council has elected to make the King/Magnolia intersection a four-way stop to ensure pedestrian safety, despite the fact that it impedes traffic somewhat. *Additionally, Policy n states that there should be no improvements to Magnolia Avenue that would encourage additional through traffic.* (p. 125)

The Revised DEIR actually states that one of its mitigation measures, namely a southbound left turn lane at Ward and Magnolia , would create "*additional capacity*" (p. 4.7-42). This proposed alleged "*mitigation*" is in direct violation of Policy n in the Larkspur General Plan. I-2 Cont'd

Perhaps because of its direct violation of the Circulation policies in the General Plan, the Revised DEIR fails to mention at all the inconsistency of the Revised DEIR with the General Plan concerning circulation. In fact the Revised DEIR in discussing the General Plan does not mention the General Plan's provisions on Circulation. (See RDEIR "Regulatory Setting" p. 4.1-3 to 4.1-8). Therefore the Revised DEIR has no basis for concluding that there is no inconsistency between the Central Larkspur Specific Plan and the Larkspur General Plan.

II. The Traffic Analysis

A. The Revised Draft EIR States Times for Traffic Counts that Differ from the Supporting Traffic Counts in the Appendices to the Revised Draft EIR.

The Revised DEIR states several times that the most recent traffic counts for the Revised DEIR were made in May 2003, but the supporting appendices contradict those statements and show that the traffic counts were made in March 2003 and about half of the documents bear a date of June of the preceding year, 2002.

The Revised DEIR states that the counts of Average Daily Traffic were made in May 1999 and 2003. (Revised DEIR p. 4.7-3) With regard to Magnolia and Doherty Drive it states that "daily counts" on those streets were recorded in "May 2003". (p. 4.7-3) It explains that "in May 2003, 24-hour machine counts were taken at two primary locations" on Magnolia and Doherty. Table 4.7-2 also refers to traffic counts "conducted in May 2003." (p. 4.7-9) I-3

Volume 2 to the Revised Draft EIR is entitled "Technical Appendices" and at Appendix F-2 there are twenty (20) separate supporting documents by Wilbur Smith Associates with their technical traffic counts. The 20 separate documents are described by a facing page, but in Appendix F-2 the pages following the facing page of each of the

20 documents are not sequentially numbered so there is no easy way to refer to a particular page of Appendix F-2. The first four documents are dated June 2, 3 or 5 2003; and the pages of those four documents have an entry after "Volume Module" which reads "Count Date" followed by a March 2003 date (generally March 19, 20, 25, 26, 27). However, all of the next sixteen traffic related documents of Appendix F-2 have no entry at all in the line "Volume Module" and no reference to a traffic "Count Date." Finally, the final twelve (12) calculations are from a prior year as all of them at the top of the page have a date in June of 2002.

Even as to the first four documents of Appendix F-2 which have a "Count Date" of March 2003, the counts taken for two of the 14 intersections were taken at a substantially different time in the AM than the time taken for the other 12 intersections. The times for most of the AM "Existing Conditions Weekday AM Peak Hour LOS Calculation Sheets" and "Existing Plus Project Conditions Weekday AM LOS Calculation Sheets" are generally between 7:30 to 8:30 AM but the counts for the intersections at Ward St. and Magnolia and at King St. and Magnolia were taken from 8:00 to 9:00 AM. However, both of those intersections have two of the worst peak hour level of service ratings of all the intersections analyzed, and taking the counts to include the very end of the morning commute rush hour would diminish the seriousness of the traffic congestion and level of service determined for those intersections. I-3 Cont'd

The Revised DEIR is confusing. Were the traffic counts taken in May 2003 as the text of the Revised DEIR states or were they taken in March 2003 as four of the supporting documents in attachment F-2 seem to indicate? What is the correct month of the traffic counts? It would seem that the raw traffic counts need to be produced rather than computer generated summaries of the "daily counts." Further how can the Revised DEIR state that the traffic counts were taken in May 2003 when twelve (12) of the attachments in Volume 2 of the Revised DEIR have a date at the top of the document which states "June 2002 . In other words, more than half of the supporting documents in Appendix F-2 are dated from the year prior to May 2003 when the Revised DEIR says the counts were taken. No explanation is given as to how dates from two separate years (2002 and 2003) can be compared to the earlier traffic counts conducted in two consecutive months of the same year, namely September and October of 1999.

B. The Revised DEIR Does Not Indicate the Increase in Traffic Since the General Plan Was Adopted.

The Revised DEIR does not convey the serious, increasing levels of traffic in Larkspur.

I-4

The Revised DEIR states that the ADT was taken in 1999 and 2003. (p. 4.7-5) However, this four year comparison does not depict the serious increases in traffic about which so many residents complain. Some erroneously say that these complaints are merely anecdotal. However, these complaints are substantiated by comparing the present traffic conditions with those set forth in the 1990 General Plan.

The General Plan states that with respect to Magnolia at King Street that:

"The Average Daily Traffic (ADT) on Magnolia *in the vicinity of King Street* was about 12,000 in 1988, *a heavy volume for a constricted two lane-roadway*." (p. 65)

The Revised DEIR shows ADT of 15,680 in Magnolia Downtown in 1999, but this statistic is not mentioned in the text. (Compare Table 4.7-1 with text at 4.7-5 to 4.7-) The ADT of 15,680 in the Magnolia Downtown was contained in an ADT count for the CLASP Citizens Committee that reported to the City Council. (See Wilbur Smith Associates Transportation Report in January 20, 2000 City of Larkspur CLASP Committee Table 2, at page 8, a copy of which is attached hereto as Exhibit 1)

The October 1999 ADT of 15,680 represents an increase of thirty percent (30%) over the General Plan ADT of 12,000 on Magnolia. At the time of the CLASP Citizens Committee report, the Wilbur Smith Associates representative said that the 1999 ADT of 15,680 on Magnolia was an approximately three percent (3%) per year increase over the General Plan ADT of 12, 000 which he said was "*very high*" in that traffic engineers are told to use one percent (1%) per year as a rule of thumb.

The ADT count for Magnolia is 12,900 in the Revised DEIR (p.4.7-4) but these so called "May 2003" counts were taken at a different time of the year of two separate years than the counts taken in September and October 1999 as reported by Wilbur Smith Associates in their January 20, 2000 report to the City of Larkspur's appointed CLASP Citizens Committee, a copy of which is attached hereto as Exhibit 1. (See p.4 "Traffic Operating Conditions") I-4 Cont'd

The Revised Draft EIR attempts to explain the "decrease" in ADT from 1999 to "May 2003" as due to "overall economic conditions which have slowed over the past few years" (Revised DEIR p. 4.7-6) This opinion is unsupported in the record. It is an invalid conclusion since the National Bureau of Economic Research, the economic expert group that analyzes national economic conditions, has determined that the last recession began in November 2000 and ended in November 2001 (Washington Post January 26, 2004, a copy attached hereto as Exhibit 2; see also NBER at www.nber.org/cycles/recessions) Thus the slowing of "overall economic conditions " had in fact ended at least two years before the "May 2003" traffic counts.

The Revised Draft EIR does not offer any other explanations, such as its traffic counts taken at different times of the year and in different years. Further, the Revised Draft EIR does not suggest whether this so called "decrease" is a temporary aberration and does not discuss future trends for traffic when economic conditions improve. Thus the supposed decrease in traffic mentioned in the Revised DEIR appears based on faulty disparate data, does not state whether future traffic conditions are likely to differ from the supposed "decrease" and does not discuss the effect of the different count times on the conclusions reached.

III. Traffic Analysis is Inconsistent with the City of Larkspur's Other Recent Traffic Studies.

A. The Recently Approved Monahan Pacific Project Made No Distinction In Traffic Generated by Market Rate and Affordable Housing Units

The Revised DEIR analyzes traffic generation from single family homes and multi family residential units and uses a lower method of traffic generation for multi residential family units. This is inconsistent with the City's traffic analysis in its most recent large residential and multi-residential subdivision, Monahan Pacific approved in early 2003.

The Revised DEIR states that it used a trip generation rate for single family residences under 3,000 square feet of 0.75 and for multi-family and cottage homes a trip generation rate of 0.56 for both of the latter. (Revised DEIR Table 4.7-5, p 4.7-18 to p. 4.4-19) It therefore concludes that the single family residences generate more trips than a multi-family or cottage residential units.

I-5

Recently the City of Larkspur approved the Monahan Pacific project consisting of 23 single family residences of 2,800 square feet and 24 affordable units in 9 multifamily buildings. In assessing the Monahan Pacific/EAH project, the traffic study used the same trip generation for both the 23 market rate single family homes as for the multi family residential units. The city's longtime traffic consultant concluded that both the 23 market rate and 24 affordable multi family residential units would generate 420 daily trips per weekday with no difference between the market rate units and the affordable housing units.(Initial Study for Monahan Pacific Project by EDAW dated May 22, 2002 ("Initial Study"), at page 3-115. Pages 3-111 to 3-120 of the Initial Study are attached hereto as Exhibit 3).

Having recently approved the only development in Marin with a blend of 50% market rate homes and 50% affordable multi residential homes, the City cannot one year later use a different method of measuring traffic that has the obvious effect of undercounting multi residential or cottage housing for the Central Larkspur Specific Plan area.

The Revised DEIR states that the existing plus specific plan level of service at the intersection of Riviera Circle and Doherty is D in the AM Peak period. (RDEIR p. 12 and 13). (RDEIR Table 4.7-10) However, the city's traffic engineer, Robert Harrison in his report dated November 17, 1999 found that at build-out the level of service in the AM peak hour would be E.

I-6

IV. Traffic Safety Problems Are Not Considered in the Revised DEIR; And the Revised Draft EIR Fails to Consider its Inconsistency with the Larkspur General Plan Policies on Safety

I-7

The General Plan Circulation Element discusses traffic accident patterns at major intersections in Larkspur, including those at Magnolia and Ward and Doherty at Larkspur Plaza and Riviera Circle. Of the twelve intersections at Magnolia the one at Ward Street was in the top twenty five percent (25%) of all accidents for the period 1984 to 1989. (General Plan p. 68)

The General Plan has a policy that the City "places a higher priority on safety as opposed to efficient traffic flow and speed." (Policy 'ae', at p. 90) I-7 Cont'd

The Twin Cities Police Annual Traffic Studies for 2001 and 2002 re-affirm the high automobile injury accidents occurring at those intersections. In 2001, Magnolia and Doherty had respectively the second and fourth highest injury collisions of the listed intersections. (p. 6) In 2002 Magnolia Avenue and Doherty Drive were both tied for the most injury accidents representing 15% each of the total injury collisions (p. 6) . Copies of the Twin Cities Police Annual Traffic Studies for 2001 and 2002 are attached as Exhibits 4 and 5.

The Revised DEIR has three mitigation measures affecting the intersection at Ward and Magnolia which will have a direct impact upon pedestrian safety but safety has not been considered by the Revised DEIR.

First, the Revised DEIR proposes "removing four parking spaces from the west curb face of Magnolia directly north of East Ward" and creating a southbound left turn lane. Further, four parking spaces would be eliminated from the south curb face of Ward Street east of Magnolia to facilitate a westbound left turn lane. (p.4.7-42). The first mitigation measure appears to be in front of the busy Left Bank restaurant and the multi residential apartments above it. In addition, the new lane for through traffic would appear to interfere with the turning and entry to the parking lot for the residents of that building.

Second, the Revised DEIR further proposes to create an additional through lane of traffic on Magnolia to the south of Ward Street by eliminating up to three parking spaces in front of the Bank of the West so that through traffic can pass along the curb/sidewalk area in order to allow a northbound left turn lane onto west Ward Street. (p.4.7-43. The title to "Impact 4.7-9 Mitigation "refers to "King Street and Magnolia" which from the text appears to be an error). I-8

Third, the Revised DEIR proposes to eliminate four parking spaces from "the south curb face of East Ward Street east of Magnolia Avenue to create space for a westbound left turn bay." (p. 4.7-42) The second and third proposals fail to consider the safety aspects of this "*mitigation*" measures. These safety aspects are very important to pedestrians on the sidewalk waiting to cross Magnolia who would be near cars speeding northerly through the Ward /Magnolia intersection. The same would be true for pedestrians waiting to cross Ward Street in a northerly direction on the east side of Magnolia. The safety impacts for these two pedestrian situations are particularly critical for children who use the Ward and Magnolia intersection to go to school at St. Patrick's, Hall and Redwood High School.

V. The Rejection of the Lower Density Proposal by referring to Meeting the City's Housing Goals Fails to Consider Other Ways of Achieving Those Goals

The Revised DEIR states that the Low Density Alternative to the Proposed Project would be "the environmentally superior alternative in the absence of the No Project Alternative." (p. 3-8) However, it rejects the Low Density Alternative on the ground that the proposed project would make a greater contribution in meeting the City's regional housing needs. (p.3-8) I-9

In rejecting the Low Density Project, the Revised DEIR does not consider that the City recently approved a project with half of the housing being affordable, namely 24 affordable units where the City's requirement was only 2 affordable units. (Monahan Pacific Project). In addition, the Revised DEIR fails to consider the possibility of the City's housing goals being met on other City sites such as the 10 acre Sanitary District site or the 275 acre San Quentin Peninsula which is currently being considered by the State for termination of the prison which would involve a sale of that site.

The City of Larkspur participated in the San Quentin Re-Use Committee, formed by the County of Marin, which adopted a Vision Plan in the summer of 2003 that contemplates from the standpoint of the County of Marin a village on San Quentin with at least 2,100 housing units with approximately twenty-five percent of the housing being affordable. (San Quentin Vision Plan dated July 2003 Objective BE-1.6 and BE 8.1 at pages 9,11. A copy of the San Quentin Vision Plan is attached hereto as Exhibit 6) I-10

The City of Larkspur has adopted specific policies in its 1990 General Plan regarding the San Quentin Peninsula including on its "eventual reuse". (General Plan p. 37) The San Quentin Peninsula in within Larkspur's sphere of influence and could be incorporated, at least in part, into the City. The use of this and other sites to meet the fair housing goals of the City are not considered in any way, and therefore the rejection of the Low Density Alternative is not based on substantial evidence.

Very truly yours,

Lawrence R. Lanctot

Cc: Ronald Arlas w/o enc
Larry Chu
Daniel Hillmer
Kathy Hartzel
Joan Lundstrom
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Economists Say Recession Started in 2000

By Nell Henderson
Washington Post Staff Writer
Thursday, January 22, 2004; 1:34 PM

The last recession may have started in the last months of the Clinton administration rather than at the beginning of the Bush administration.

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The panel of economists that serves as the official timekeeper for the nation's recessions is considering moving the starting date for the most recent economic decline back to November or December of 2000, a member of the group said today, confirming a report that appeared in The Wall Street Journal.

"We have discussed it already and there seems to be some inclination to move the date" to some time in the last three months of 2000, said Victor Zarnowitz. He is a member of the National Bureau of Economic Research's business cycle dating committee, which determines the widely accepted start and end dates to U.S. recessions.

The seven-member panel had earlier decided that the recession began in March 2001 and ended in November that year. President Bush took office in January 2001.

NBER is a private, nonprofit economic research group. Zarnowitz, an economist with the Conference Board, another private research group, said the dating decision will be nonpolitical, based solely on recently revised government economic data.

"Presidents don't have so much to do, in my opinion, with when recessions start," Zarnowitz said. "Clearly the boom happened under Clinton, and the boom generates the bust. And no administration has the power to change that."

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NBER President Martin Feldstein said, "It is clear that the revised data have made our original March date for the start of the recession much too late," but he did not offer a different date. "We are still waiting for additional monthly data before making a final judgment," said Feldstein, a Harvard University economist. "Until we have the additional data, we cannot make a decision."

The Wall Street Journal story quoted Robert Hall, a Stanford University economics professor who chairs the dating committee, saying that "a reasonable look at the numbers" could lead one to decide that the recession started some time between November 2000 and February 2001.

Zarnowitz said he will look further at the data, but thinks now that "the recession started maybe November or December 2000 and lasted to November of 2001." If so, that would be an average duration for a post World War II recession, changing the perception up until now that the last recession was shorter than average.

Zarnowitz said he does not know when the committee will meet to make an official decision.

The panel picked March 2001 as the beginning of the recession primarily because that was when U.S. payroll employment began to drop seriously. Since then, the economy has lost some 2.4 million jobs.

But the economists look at other indicators as well. The group defines a recession as "a significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in real GDP [inflation-adjusted gross domestic product], real income, employment, industrial production and wholesale-retail sales. A recession begins just after the economy reaches a peak of activity and ends as the economy reaches its trough."

In previous recessions, the payroll jobs number was a pretty good proxy for economic growth, rising and falling as the economy expanded and contracted, although often with a bit of a lag. But the two have diverged dramatically in recent years, with payrolls continuing to shrink more than two years after the end of the recession. Meanwhile the nation's output of goods and services, or GDP, declined in the first three quarters of 2001, but started growing again in the fourth quarter of that year and has continued to rise since then.

This has been possible because businesses adopted new technology and management methods to boost production while shedding workers. The growth in productivity -- the amount of goods and services produced for each hour worked -- rose through the contraction and recovery since.

Zarnowitz said the NBER dating committee closely follows an index that combines measures of industrial production, total demand, personal income minus government transfer payments, and the number of nonfarm payroll jobs--giving more weight to the jobs component. According to recently revised data, the index "started falling in December or November 2000," he said.

"Three of the four components would definitely point to an earlier date" for the beginning of the recession, he said. "Only one lagged."

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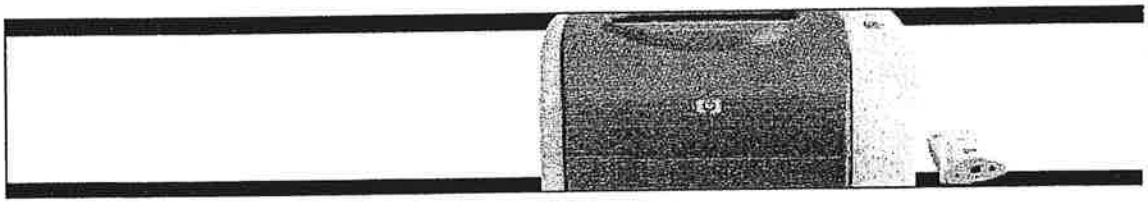

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INITIAL STUDY

for the

Monahan Pacific Project

CITY OF LARKSPUR, CALIFORNIA

May 22, 2002

Comments Incorporated October 10, 2002

EDAW

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ENVIRONMENTAL ISSUES *(see attachments for information sources)*	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
15. TRANSPORTATION/TRAFFIC — Would the project:				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☒	☐	☐
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e) Result in inadequate emergency access?	☐	☐	☒	☐
f) Result in inadequate parking capacity?	☐	☐	☒	☐
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☒	☐

ENVIRONMENTAL SETTING

The setting description and environmental analysis are based on a traffic impact report and supporting memoranda prepared for the development of Parcel 19 and 21 by TJKM in September 2001. The traffic report was subsequently reviewed by the City of Larkspur's traffic consultant for its consistency with the City's Circulation Assessment Permit (CAP) requirements. The project's proposed traffic improvements were peer reviewed by DKS Associates for their ability to provide adequate access and safety along Sir Francis Drake Boulevard. A copy of the traffic impact report is available for review at the City of Larkspur Planning Department (TJKM 2001). The following provides a summary of the information presented in the report.

Regional access to the project area is provided by U.S. Highway 101 (US 101) and Sir Francis Drake Boulevard. Access to Parcel 19 would be provided via Larkspur Landing Circle and Lincoln Village Circle, and access to Parcel 21 and the gun range site would be provided via East Sir Francis Drake Boulevard. Key roadways in the project vicinity include:

- US 101 is a controlled access freeway of regional importance. It crosses the City in a north-south direction and connects most of the urbanized communities in Marin County.

- Sir Francis Drake Boulevard/East Sir Francis Drake Boulevard is classified as a major arterial in the Larkspur General Plan. It is generally an east-west roadway. East of the project area, it is a two-lane undivided roadway with a double yellow centerline. It becomes a four-lane divided roadway just west of Larkspur Landing Circle East. Left turn lanes are provided at important intersections.

- Larkspur Landing Circle intersects Sir Francis Drake Boulevard on the west at the entrance and exit to the Larkspur Ferry Terminal. It circles to the north and intersects East Sir Francis Drake Boulevard again to the east. It is a four-lane divided road from its intersection with Sir Francis Drake Boulevard on the west to just west of Old Quarry Road. It becomes a two-lane, divided road for a short segment, and is a two-lane road with a double yellow centerline from Old Quarry Road to the east intersection of Larkspur Landing Circle and Lincoln Village Circle. At this point, it becomes a four-lane, divided roadway to its intersection with East Sir Francis Drake Boulevard.

The following intersections were evaluated to determine the project's impacts related to volume to capacity ratio (V/C ratio) and level of service (LOS).

- East Sir Francis Drake boulevard and U.S. 101 northbound ramps,
- East Sir Francis Drake Boulevard and Larkspur Landing Circle West, and
- East Sir Francis Drake boulevard and Larkspur Landing Circle East.

Level of Service (LOS) is a qualitative measure describing operational conditions within a traffic stream and their perception by motorists and passengers. The level of service (LOS) analysis results in a letter grade for each intersection studies, from A through F, with A being free flow with insignificant delays, to F, a gridlock condition. As part of the City's CAP ordinance, the City of Larkspur has implemented a policy that signalized intersections should not operate at LOS D during peak hours. However, intersections west of Highway 101 on Sir Francis Drake Boulevard are operating at LOS E during peak hours and are exempt from this policy.

The Volume-to-Capacity ration (V/C) is another measure of how well a roadway is performing. The V/C ratio is a comparison of the existing or projected traffic volume on a roadway to its total capacity. The City of larkspur uses the V/C ratio to determine if a project will have a significant

traffic impact for those roadways that operate at LOS D or worse. A traffic impact on these roadways would be considered significant if the project increases the V/C ratio by more than one percent (0.01).

Existing Volume-to-Capacity (V/C) and LOS conditions at the studied intersections are shown in Table 3.15-1.

TABLE 3.15-1
VOLUME TO CAPACITY RATIO/LEVEL OF SERVICE SUMMARY
EXISTING CONDITIONS

Intersection	AM Peak Hour		PM Peak Hour	
	V/C[1]	LOS[2]	V/C[1]	LOS[2]
East Sir Francis Drake Blvd./U.S. 101 northbound ramps	0.750	B	0.975	C
East Sir Francis Drake Blvd./Larkspur Landing Circle West	0.778	C	0.918	E
East Sir Francis Drake Blvd./Larkspur Landing Circle East	0.652	B	0.652	B

[1] Volume-to-Capacity Ratio
[2] Level of service

Source: TJKM 2001

As shown in Table 3.15-1, the intersection of Sir Francis Drake Boulevard/U.S. 101 northbound ramps operates at LOS B during the AM peak hour, and LOS C during the PM peak hour. The intersection of East Sir Francis Drake Boulevard/ Larkspur Landing Circle West operate at LOS C during the AM peak hour and LOS E during the PM peak hour. The intersection of East Sir Francis Drake Boulevard/Larkspur Landing Circle East operates at LOS B during the AM and PM peak hour.

Transit System

Marin County's transit system consists of fixed-route local and commuter bus service, airport feeder service, ferry service, taxi service, para-transit, van pools, car pools, park-and-ride facilities, pedestrian, and equestrian paths (City of Larkspur 1990). Local public transit service is provided by Marin Transit, which contracts with the Golden Gate Bridge, Highway and Transportation District (GGHTD) for fixed route service (City of Larkspur 1990). Commuter bus services are provided by GGHTD which is responsible for scheduled fixed-route service within Marin, Sonoma, San Francisco and Contra Costa counties, ferry service between Larkspur or Sausalito and San Francisco, and chartered social service routes. One Larkspur ferry terminal park-and-ride is located within 0.25 mile of the project site, and is operated by Golden Gate

Transit. The main parking lot is located at the Larkspur Ferry Terminal approximately 0.25 mile southwest of Parcel 19.

Bicycle and Pedestrian System

Larkspur is well served by bicycle and pedestrian facilities, which are predominantly oriented to serve students and recreation needs (City of Larkspur 1990). In general, multi-purpose paths accommodating bicyclists and pedestrians have best served the City of Larkspur. A pedestrian path would be located south of Parcel 19 and would connect Larkspur Landing Circle to the future Miwok Park.

Several goals, policies, and programs relative to trails and paths have been set forth by the existing City of Larkspur General Plan including Goal 5 (Policy 1, Action Program [16]) which states: "multiple access points prior to development of areas adjacent to trails and open space lands must be secured (e.g., Big and Little King, Tubb Lake/Miwok Park, San Rafael/Southern Heights Ridge)."

THRESHOLDS OF SIGNIFICANCE

The following thresholds of significance were used to determine whether the proposed project would have a significant effect on the environment. The project would have a significant effect on the environment if it would:

- At completion, or in the cumulative analysis, cause the operation of a signalized intersection operating during the PM peak hour at LOS D or better to be degraded to LOS E or F, unless the intersection is specifically exempted in the Larkspur General Plan;
- At completion, or in the cumulative analysis, cause the operation of an unsignalized intersection operating during the PM peak hour at LOS C or better to be degraded to LOS D or E; at LOS E to be degraded to LOS F; or at an intersection currently operating at LOS F, the project would cause an increase of two percent or greater in vehicle delay;
- Result in a substantial parking shortfall in relation to demand or inadequate emergency vehicle emergency vehicle access;
- Conflict with adopted policies, plans, or programs designed to mitigate intersection LOS or to support alternative transportation modes; or,
- Result in a greater than 1% (0.01) increase in the volume-to-capacity ratio of area roadways for those roadways that operate below the City's LOS standards.

DISCUSSION

a) **Would the project cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e. result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?**

Less than significant with mitigation. Enclosure of San Quentin Gun Range 2 would increase the number of shooting lanes (19 lanes) above what currently exists (10 lanes). This could result in an increase in the number of people using the facility, thereby increasing traffic levels on East Sir Francis Drake Boulevard. SQSP has agreed that Gun Range 2 is to be enclosed and San Quentin Gun Ranges 3 and 4 would be permanently closed. This would remove 10 active shooting lanes from operation, offsetting the increase in shooting lanes at Gun Range 2. Because the closure of Gun Ranges 3 and 4 is not guaranteed, enclosure of Gun Range 2 could increase traffic levels along East Sir Francis Drake Boulevard. Therefore, this would be a potentially significant impact. Implementation of the mitigation measure identified in Item 11b (on page 3-101) would reduce this impact to a less-than-significant level.

Development of Parcel 19 and 21 would generate 420 daily trips during a weekday: 33 trips during the morning peak hour and 42 trips during the evening peak hour. A project trip is defined as a single, or one-direction, vehicle movement either originating from or destined to the proposed project. The existing plus project traffic volumes are summarized in Table 3.15-2 for the study intersections.

TABLE 3.15-2
LEVEL OF SERVICE SUMMARY
EXISTING + PROJECT TRAFFIC CONDITIONS

Intersection	Control	AM Peak Hour			PM Peak Hour		
		V/C[1]	Delay[3]	LOS[2]	V/C	Delay[3]	LOS
East Sir Francis Drake Blvd./U.S. 101 northbound ramps	Signal	0.759	8.5	B	0.980	22.9	C
East Sir Francis Drake Blvd./Larkspur Landing Circle West	Signal	0.786	20.2	C	0.923	50.6	E
East Sir Francis Drake Blvd./Larkspur Landing Circle East	Signal	0.660	8.1	B	0.664	106	B

1 Volume-to-Capacity Ratio
2 Level of service
3 Delay is the average delay per vehicle for the entire intersection

Source: TJKM 2001

As shown in the table, the project would not change the LOS at the intersections of East Sir Francis Drake Boulevard and U.S. 101 northbound ramps and the intersection of East Sir Francis Drake Boulevard and Larkspur Landing east. Therefore, less than significant project related impacts to these intersections would occur with project development. The intersection of East Sir Francis Drake Boulevard and Larkspur Landing west would operate at LOS E with implementation of the project; however, the addition of project related traffic would result in less than 1% deterioration in peak hour V/C ratio, which is not a substantial change. The City's threshold for intersections that operate at unacceptable levels (LOS D or worse) would not be exceeded with implementation of the project; therefore, the project would not cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system and less-than-significant impacts would occur.

b) Would the project exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads:

Less than significant impact. As described in Item 15a above, the addition of project relatec traffic would result in operation at LOS C during PM peak hour at the Sir Francis Drake/U.S. 101 northbound ramp, LOS E at the Sir Francis Drake/Larkspur Landing Circle west intersection anc LOS B at the East Sir Francis Drake/Larkspur Landing Circle east intersection. This LOS leve associated with project-related traffic increases would still be within acceptable service levels fo signalized intersections because either the LOS would remain at acceptable conditions (LOS D o better) or the addition of project related traffic would result in less than 1% deterioration in peal hour V/C ratio. With respect to cumulative conditions (existing plus full buildout of the City' General Plan), the intersection of Sir Francis Drake Boulevard and U.S. 101 northbound ramp would operate at LOS E, the intersection of Sir Francis Drake Boulevard and Larkspur Landin Circle West would operate at LOS F, and the intersection of Sir Francis Drake Boulevard anc Larkspur Landing Circle East would operate at LOS D. The project's cumulative project traffi conditions are shown in Table 3.15-3.

As shown in Table 3.15-3, two of the study intersections would not operate at acceptable servic levels when project traffic is added to traffic expected with buildout of the Larkspur General Plan The City of Larkspur recognizes that the level of service standards would not be maintained a these intersections under buildout traffic conditions and has plans to improve operations at thes intersections. These improvements are planned and would be funded by the City's traffic impac fee. The improvements include the addition of a westbound through lane at the intersection c Sir Francis Drake Boulevard and U.S. 101 northbound ramps. In addition, a third westboun lane would be provided east of the intersection of Sir Francis Drake Boulevard and Larkspu Landing Circle west through removal of parking on Sir Francis Drake Boulevard. A southboun right turn overlap phase would be added to the existing traffic signal at the Sir Francis Drak Boulevard and Larkspur Landing Circle west intersection.

TABLE 3.15-3 LEVEL OF SERVICE SUMMARY CUMULATIVE PROJECT TRAFFIC CONDITIONS						
Intersection	Existing Traffic			Buildout Traffic with Proposed Project		
	Delay	LOS	V/C	Delay	LOS	V/C
East Sir Francis Drake Boulevard with:						
US 101 northbound ramps	22.7	C	0.975	43.4	E	1.098
Larkspur Landing Circle West/Ferry	49.4	E	0.918	102.1	F	1.124
Larkspur Landing Circle East	12.1	B	0.652	29.6	D	0.908
Source: TJKM 2001						

This phase would allow double southbound right turns to be made at the same time eastbound left turns are made. Implementation of these recommended improvements would improve service level during the evening peak hour. The service levels with proposed project, cumulative buildout traffic, and the proposed roadway improvements are summarized in Table 3.15-4.

TABLE 3.15-4 LEVEL OF SERVICE SUMMARY CUMULATIVE PROJECT TRAFFIC CONDITIONS + ROADWAY IMPROVEMENTS						
Intersection	Existing Traffic			Buildout Traffic Plus Improvements		
	Delay	LOS	V/C	Delay	LOS	V/C
East Sir Francis Drake Boulevard with:						
US 101 northbound ramps	22.7	C	0.975	21.2	C	0.882
Larkspur Landing Circle West/Ferry	49.4	E	0.918	38.0	D	0.726
Larkspur Landing Circle East	12.1	B	0.652	26.9	D	0.893
Source: TJKM 2001						

As shown in Table 3.15-4, service levels for the studied intersections of East Sir Francis Drake Boulevard and US 101 northbound ramps, and Larkspur Landing Circle East would operate at acceptable levels once planned roadway improvements are in place. Therefore, under the City's CAP Ordinance , this would be considered a less-than-significant impact.

c) **Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?**

No impact. No uses are proposed that could affect air safety at the Smith Ranch Road airport (the closest airport to the project site and gun range site) located approximately 6 miles north, or other airports in the region. Project-related traffic would not be distributed in the vicinity of an airport, nor are any aviation-type uses are proposed with project development. Therefore, no impact to air traffic safety would occur with project development.

d) **Would the project substantially increase hazards to a design feature (e.g.,sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?**

Less than significant impact. The proposed project would not involve hazards to design features, such as sharp curves or dangerous intersections, or create hazardous conditions by introducing incompatible uses. Construction-related equipment and vehicles would be staged onsite and with the exception of a storm drain no offsite construction would occur. The project proposes to construct a two-way, left-turning lane in the middle of East Sir Francis Drake Boulevard to provide adequate access and safety for vehicles accessing Parcel 21. The design of this two-way left turning lane was peer reviewed by DKS Associates in October 2001. The results of the peer review indicated that the proposed two-way left turning lane would provide adequate safety and sighting distances for vehicles entering and exiting the project site (DKS 2001). Additionally, the project applicant has agreed to implement additional safety measures to maximize driver awareness of the turning lane. These measures could include pavement markings, signage, reflectors, "bumps", or other traffic control devices as determined by the Director of Public Works. No creation of hazards is expected to occur with project development. Consequently, this impact would be considered ~~less-than significant~~ less than significant.

e) **Would the project result in inadequate emergency access?**

Less than significant impact. The proposed project would not have a substantial effect on emergency access to the project area. Parcel 19 and 20 would be served by 20-foot-wide private access roads in accordance with Larkspur Fire Department requirements, which would be graded and surfaced. The gun range site would be served by the existing paved access road off East Sir Francis Drake Boulevard. Fire suppression and emergency response would continue to be provided by the City of Larkspur Fire Department from the Greenbrae Fire Station (Station 16) and SQSP. Emergency access from this area would not be substantially affected as traffic distribution associated with the proposed project would occur primarily on eastbound and westbound Sir Francis Drake Boulevard (refer to Item 15a on page 3-115). In addition, as described in Item a and b, only minor increases to traffic on local roadways would occur with

project development. Therefore, less-than-significant impacts related to emergency access would be anticipated with project development.

f) Would the project result in inadequate parking capacity?

Less than significant impact. The project would provide inadequate onsite parking for residents and visitors of Parcel 19 and adequate parking for Parcel 21 in accordance with City of Larkspur requirements. The gun range site currently has approximately 40 parking spaces to serve the gun range. These parking spaces would adequately serve users of the site. According to the zoning ordinance (Chapter 18.31.100), the project should provide for 56 on-street parking spaces on Parcel 19, with half of them covered. The project proposal includes only 43 on-street parking spaces on this parcel, with half of these covered. Exceptions to certain zoning standards (including parking) would be allowed by the Planning Commission and City Council if it can be demonstrated that the exceptions would result in a more desirable development and are warranted in terms of the relationship of the total proposed development. Provision of only 43 on-site parking spaces would be adequate for the proposed project because overall demand for automobile transportation would be reduced because adequate public transportation is available in the near vicinity (existing bicycle paths and pedestrian walkways connect Larkspur and Corte Madera, the Larkspur Ferry terminal is less than 0.5 mile of the project) and the project is within walking distance of retail shopping centers. Further, the project would provide an adequate number of parking spaces in accordance with the City's Parking Ordinance. Therefore, less-than-significant parking impacts would occur with project development.

g) Would the project conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

Less than significant impact. The project would not result in any permanent features that would affect or alter existing facilities nor interfere with construction of any future planned facilities for alternative modes of transportation (i.e., bus turnouts, bicycle lanes, etc.). However, Policy 1, Action Program [16] of the Larkspur General Plan requires that multiple public access points be secured prior to development of areas adjacent to trails and open space lands. The project site is bisected by Miwok Park and would require a public access point to the park. A public easement from Larkspur Landing Circle to Miwok Park is located along the southern boundary of Parcel 19. A portion of this public access easement may be paved and could in the future provide public access to Miwok Park. Because the project would be consistent with adopted policies, plans, or programs supporting alternative transportation, less-than-significant impacts related to public access to open space areas would be anticipated with project development.

ENVIRONMENTAL ISSUES *(see attachments for information sources)*	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
16. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a) Exceed wastewater treatment requirements of the applicable regional Water Quality Control Board?	☐	☐	☒	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs	☐	☐	☒	☐

ENVIRONMENTAL SETTING

Electricity and Natural Gas

Electrical and gas service is provided to the project area by Pacific Gas and Electric (PG&E). PG&E pays for upgrades and extension of infrastructure from existing facilities to service new development areas. Projects that require existing PG&E facilities to be relocated or installed underground are funded by the project developer. When a "Main Line Extension" is needed to serve a proposed project, the cost of these improvements are also funded by the project developer. A portion of these costs are refundable to the project developer as additional development connects to the main line or the project has reached its capacity load (Fox 1999).

Water

Water service in the project area is provided by Marin Municipal Water District (MMWD). MMWD is one of eight water purveyors in Marin County and provides water to approximately 58,000 residential and commercial connections in its service area, extending from the Golden Gate

City of Larkspur Annual Traffic Report

Prepared by
Sergeant Mike McDuffee

City of Larkspur

Prepared by
'ergeant McDuffee

YEARLY TRAFFIC REPORT 2001

Twin Cities Police Department

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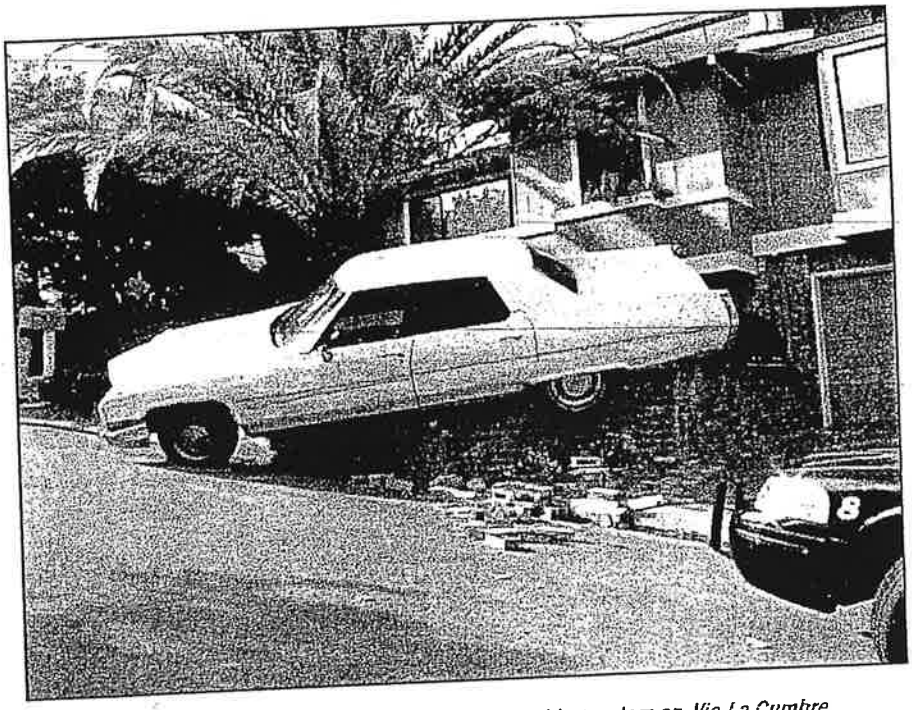
Primary Collision Factors	5
Roadway Frequency	6



This vintage Cadillac lost the "vintage" braking system on Via La Cumbre.

During 2001, there were a total of 316 traffic accidents in the City of Larkspur. Of these accidents, 205 occurred on city streets—111 occurred on private property. There were 226 traffic accidents that were handled by log entries where both parties exchanged names and information. We investigated 90 traffic collisions in 2001 which compared to 117 during 2000 is a 23% decrease. (Accidents where police respond and take a report.)

Injury accidents decreased by roughly 17%, from 48 during 2000 to 40 in 2001. Our overall enforcement (DUI arrests and hazardous moving citations) increased 10.6%, from 910 to 1007. DUI arrests increased by 21%, from 39 in 2000 to 47 in 2001.

Driving under the influence involved collisions increased by one this year going from seven in 2000 to eight in 2001, a 14% increase. There were no felony DUI involved traffic collisions in 2001.

Administrative/mechanical citations increased from 294 in 2000 to 306 in 2001, which is a 4% increase. Parking citations decreased from 1281 in 2000 to 958 in 2001, which is a 25% decrease.

The traffic enforcement index for Larkspur was up in 2001; it increased from 18.95 to 25.17.

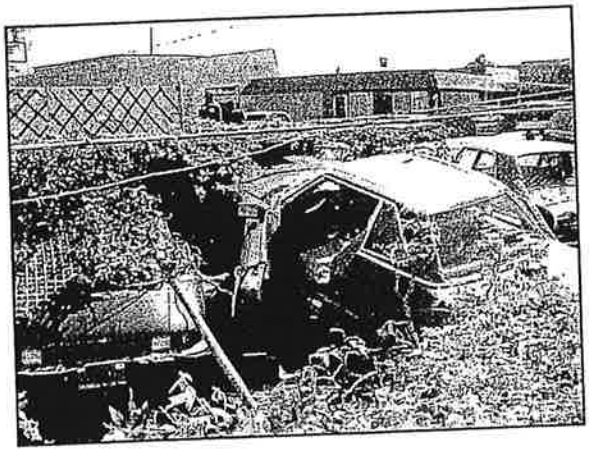
Roadway Frequency

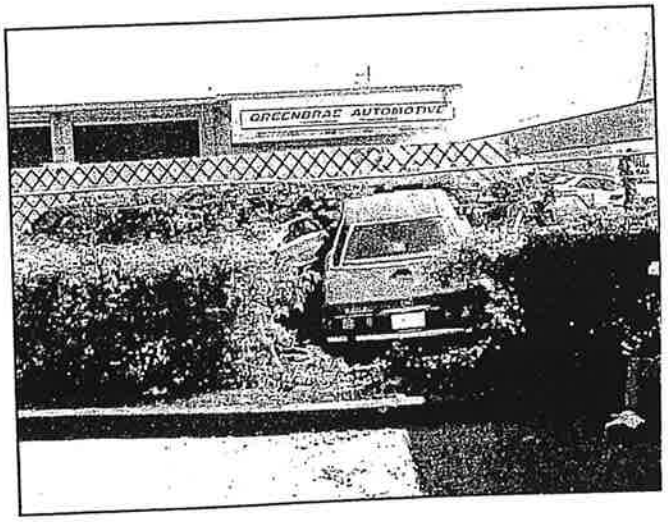
Injury Collisions

# Collisions	Roadway	Percent
11	E. Sir Francis Drake Blvd.	27.5 %
7	Magnolia Ave.	17.5 %
6	Larkspur Landing Circle	15 %
4	Doherty Drive	10 %
3	Bon Air Rd.	7.5 %
2	Sir Francis Drake	5 %
2	South Eliseo	5 %
1 each	Via La Cumbre Via Hidalgo, El Portal Creekside, Redwood Hwy	4 %

Property Damage Only

# Collisions	Roadway	Percent
5	Redwood Highway	15.6 %
4	Magnolia Ave.	12.5 %
3	Sir Francis Drake Blvd.	9.3 %
3	E. Sir Francis Drake Blvd.	9.3 %
3	Doherty Dr.	9.3 %
2	Alexander	6.3 %
2	Barry Way	6.3 %
1 (each)	Via La Cumbre, El Portal, Elm, Rice, Hawthorne, Corte Fedora, Via Hidalgo Skylark, Drake's Landing Larkspur Landing	3.1 %



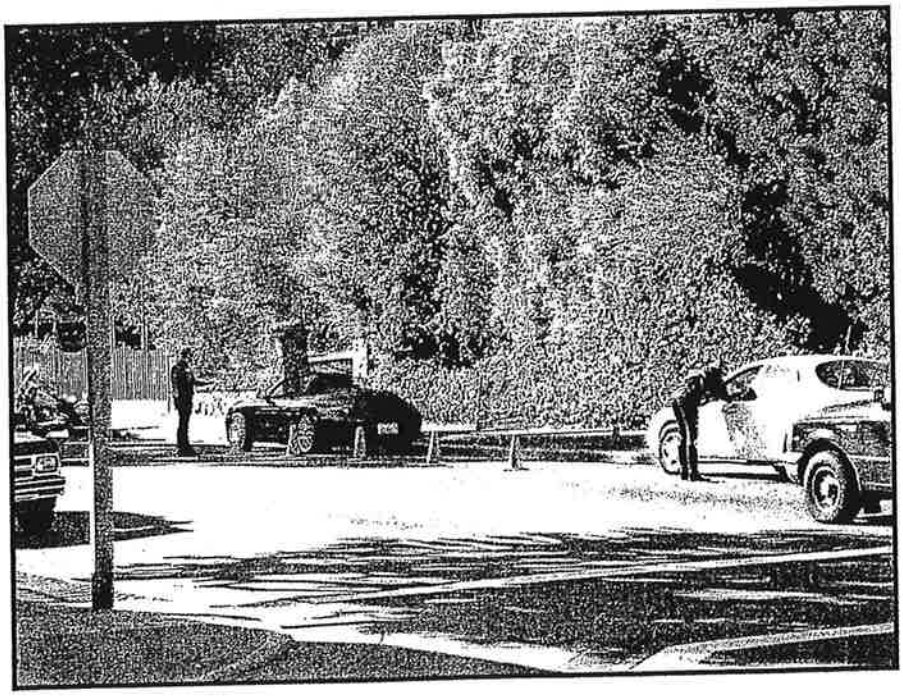


A little too fast on the gas pedal after filling the tank resulted in this driver taking an unexpected exit from the Valero gas station. I wonder if she put a "tiger in her tank?"

City of Larkspur Annual Traffic Report 2002

Roadway Frequency

Injury Collisions			Property Damage Only		
# Collisions	Roadway	Percent	# Collisions	Roadway	Percent
6	Magnolia Ave.	15 %	9	Magnolia Ave.	24.3 %
6	Doherty Drive	15 %	8	E. Sir Francis Drake Blvd.	21.6 %
5	E. Sir Francis Drake Blvd.	12 %	4	Sir Francis Drake Blvd.	10.8 %
4	Bon Air Rd.	10 %	2	Skylark Drive	5.4 %
4	Sir Francis Drake	10 %	2	Barry Way	5.4 %
3	Redwood Hwy	7 %	2	El Portal	5.4%
2	Larkspur Plaza	5 %	2	Larkspur Landing Circle	5.4%
1	South Eliseo	2 %	2	Piper Park Ln.	5.4%
1	Larkspur Landing Circle	2 %	1 each	Bon Air Road, King, Locust, Meadowood, Via Barranca, Via Hidalgo	2.7%
1 each	El Portal, Sunrise, Elm Hillcrest, Industrial, Eliseo, Corte Ortega, Locust, Hawthorne	2 %			



TCPD Motor Officers conduct a seat belt check point. In a two hour period, 86 people were warned for not wearing seat belts.

San Quentin Vision Plan

July 2003 Draft

Prepared by:

Marin County Community Development Agency

with

FISHER & HALL
URBAN DESIGN
Town Planning • Plaza Design • Ecological Design • Education

ACKNOWLEDGEMENTS

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San Quentin Vision Plan

Committee Review Draft

July 9, 2003

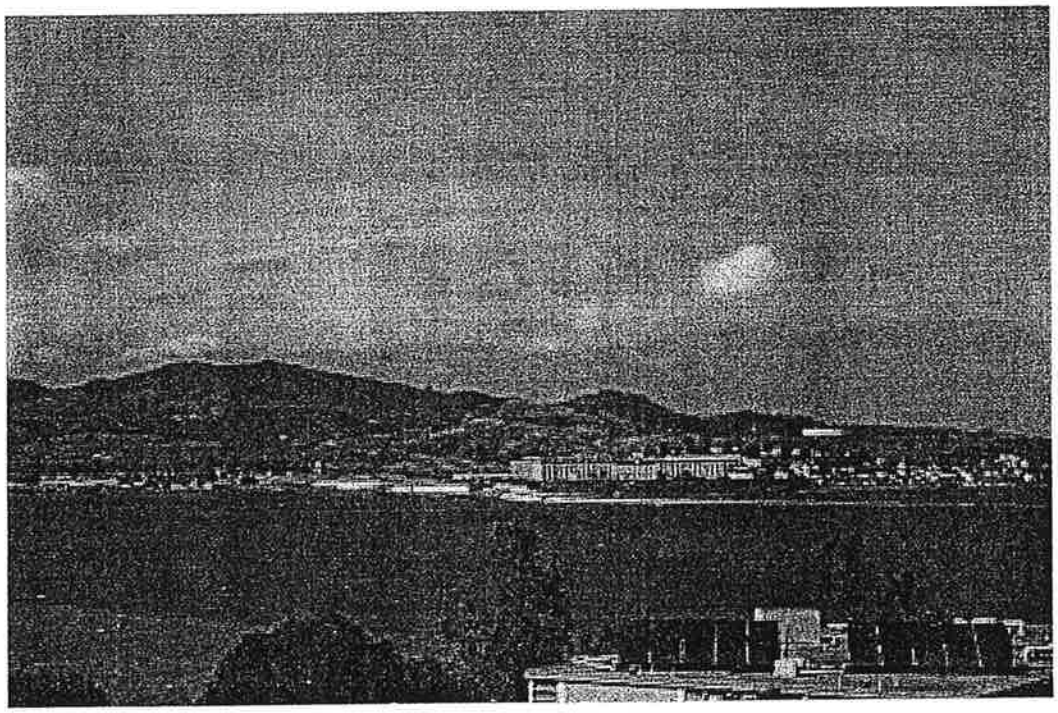
I. INTRODUCTION

A. Overview

San Quentin State Prison has been a part of the Marin community since 1852. From its beginning on the prison ship Waban, the facility has been expanded many times over the years to accommodate an increasing inmate population. Many of the structures on the site are historically significant and feature interesting architectural details not found in modern prisons.

Because of the age of the buildings on site, maintenance of the facility is costly. Furthermore, the design of the main cellblocks is such that safety for correctional officers and inmates is of concern. In the last 20 years there have been proposals at the State level to alternately close the facility and to expand or remodel it to modern standards.

Marin County's land use regulations do not apply to any State use, prison or otherwise. However, if the State were to close the prison and did not use it for some other State purpose, the private use of the property would come under the County's land use jurisdiction.



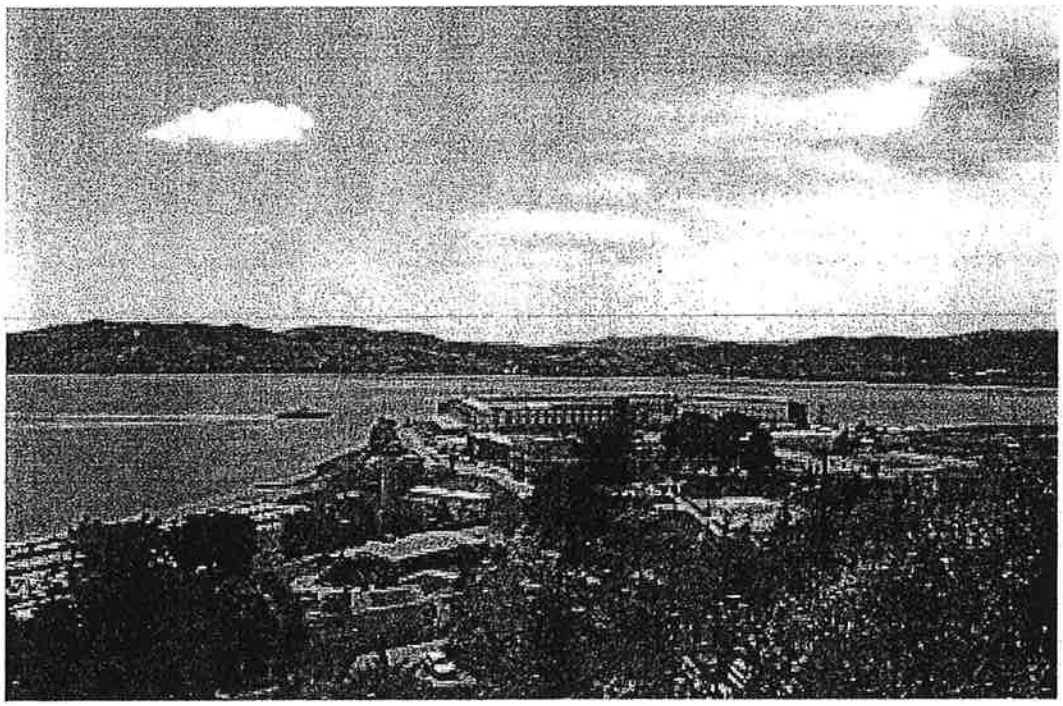
B. Background

In light of the potential for the State to close the facility, the Marin County Board of Supervisors appointed the San Quentin Reuse Planning Committee in early 2002 to evaluate appropriate uses for the site should the State decide to declare the property as surplus and dispose of it. The Committee included representatives from the City of Larkspur, Town of Corte Madera, City of San Rafael, Golden Gate Bridge District, Sonoma Marin Area Rail Transit (SMART), San Quentin Village and interests in commercial/business, environment, historic preservation and culture, housing, land development, social equity and energy/renewable resources.

In June 2001, the "Preliminary Analysis of Potential Reuse and Relocation of San Quentin" was prepared by the State of California, Department of General Services. This study developed three hypothetical alternatives that analyzed the economic impacts of each one. The study found that the revenue from proper planning, entitlement and sale of the site would be necessary to finance the replacement and relocation of current prison facilities and programs, depending on the specific entitlements provided by the County and the manner in which the facility is replaced.

In March 2002, The San Quentin Reuse Planning Committee began a yearlong process of reviewing the following issues:

- Natural assets and opportunities
- Circulation on- and off-site, including auto, pedestrian, bicycle, and transit (ferry, rail, bus)
- Housing, commercial, mixed-use opportunities
- Prison operation and programs; closure alternatives; community benefits; community needs – schools, child care, public facilities
- Community design; energy and utility infrastructure; innovative building practices



In January 2003, a community workshop was held at the San Rafael Community Center that attracted over 200 members of the public. As part of the Countywide Plan Update, this event elicited public input and helped to formulate a community vision of what a new San Quentin Community would be like in the future. The day was structured into the following three main components:

- **Self-guided informational stations**
  Information was presented and input was gathered on transportation and circulation, historic resources, housing, community design, cultural, recreation and social opportunities; and energy and environmental opportunities. At each of the stations, participants had a chance to familiarize themselves with the station topic, discuss issues and interests with resource specialists, and have their comments and ideas recorded by staff.

- **Keynote speaker**
  Andres Duany, a noted town planner, challenged the audience to think beyond the usual planning and land-use dialogue to craft a truly world-class vision for the site. He also stressed that the County could place almost any constraints on the project and it would still be successful due to the superb location of the property.

- **Visual preferences**
  Visioning exercises yielded a wide range of opinions on what the site should look like in the future. However, even with the diversity of opinion, some potential uses and community concepts were more popular than others. Greater preference was given to a more urban community -- such as Palo Alto, Madrid and Paris -- rather than a rural village. Preferred additional specific uses include, in order of preference, affordable housing, transit hub, open space, performing arts facility and an historic park.

Complete details from this workshop are available in the County of Marin's "San Quentin Vision Summary" report, available on the County's website, co.marin.ca.us.

The outcomes of these efforts along with the extensive discussions by the Reuse Committee are the recommendations contained in this document. These recommendations will be folded into the Countywide Plan update as specific policy for the San Quentin Prison site.

C. Key Trends and Issues

There is a nationwide trend toward mixed-use infill development, particularly near transit nodes, that is reversing the trend toward auto-dominated neighborhoods and public spaces. This is a more sustainable way to provide needed housing and neighborhood-serving commercial uses.

There is also a nationwide trend toward New Urbanism, which is a pattern of development based on the walkable neighborhood. This pattern provides a range of housing types, neighborhood-scale commercial uses, and civic amenities such as schools and parks, all within a walkable radius of approximately ¼ - ½ mile.

One of Marin County's main goals over the past 30 years has been to improve the transit services that are available to its residents and workers. Traffic congestion and its impacts on the urban and natural environments are a major concern. However, convenient and cost-efficient transit systems have not yet proven to be a viable alternative to most people currently driving private automobiles. This is due in large part to the lack of centers with a population density that will support transit service at sufficiently frequent intervals to make transit a reasonably convenient and attractive alternative to driving. A multi-modal facility at the new San Quentin Community could be one such center.

Marin County is also committed to developing and enforcing building and site design standards that minimize reshaping of the natural terrain, and harmonizing the built elements with their natural surroundings.

Over the course of the year long Committee meetings and the community workshop input, the following key strategies emerged as critical to guiding in any future reuse scenario:

- Mitigate potential traffic impacts through multi-modal transportation design, demand management techniques, and effective infrastructure improvements.
- Enhance the mouth of Corte Madera Creek and San Francisco Bay ecosystems through sound ecological design.
- Preserve and/or reuse, to the extent feasible, the most significant historic structures.
- Design the community, to the greatest degree possible, not to exceed current demands on energy, water, and utility infrastructure.
- Remove or remediate hazardous materials and contaminated soils.
- Provide a variety of housing types to enable a diverse population to live in the community.
- Protect the character of San Quentin Village
- Continue to provide opportunities for volunteer assistance in inmate rehabilitation and restorative justice programs by retaining some related prison functions on the site.

D. San Quentin, Marin, and the Region

The San Quentin peninsula was originally selected as the site for the State's first prison because of its remoteness and relative security provided by being surrounded by the bay, hills, and marshlands. Now, the prison property is bounded by commercial and residential development and San Francisco Bay serves as an important ferry link as well as a recreational amenity. The site is considered highly desirable due to its location on the shore of the bay, views of Mt. Tamalpais and East Bay hills, and proximity to San Francisco .

The Marin Countywide Plan has, since its initial adoption in 1973, directed urban development towards the eastern City-Centered Corridor while significantly reducing development potential in West Marin. As the county has limited land left to accommodate projected growth, efforts have focused on the reuse of underutilized sites, especially those proximate to transit, to provide housing and mixed-use opportunities. San Quentin, with its proximity to the county's two major freeways, the Richmond Bridge, and bay frontage is seen as a prime location for an efficient reuse of existing developed land with a transit-oriented community that would help provide additional housing, neighborhood commerce, and related services in Marin linked to a multimodal transportation facility to connect the communities of Marin with the rest of the Bay Area.

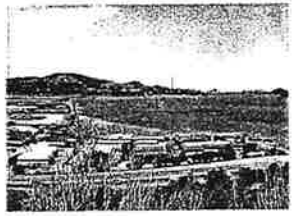
It is a regionally significant site as well, with several regional organizations expressing an interest in the future of the site. Some would have regulatory authority over portions of the site, such as the Bay Conservation and Development Commission, while others have also recognized the value of the site to meet regional needs. Both the Sonoma-Marin Area Rail Transit and the Water Transit Authority have studied the possibility of having rail and ferry service to the site. Additionally, the State of California has conducted preliminary studies to analyze what potential costs and benefits would result from moving the prison use elsewhere.

E. Opportunities and Constraints

The San Quentin State Prison is approximately 275 acres located in Marin County on San Francisco Bay. The site is bounded by Interstate 580 and the City of San Rafael to the north, Highway 101 and the City of Larkspur to the west, the Bay to the south, and the Richmond-San Rafael Bridge and small private community of San Quentin Village to the east.

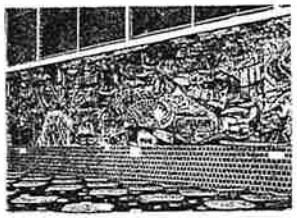
(D) View towards Mt. Tamalpais

(E) View towards Larkspur


(F) View towards San Rafael and 580 (North)

(G) View of northern edge of site

(H) Prison worker housing on site

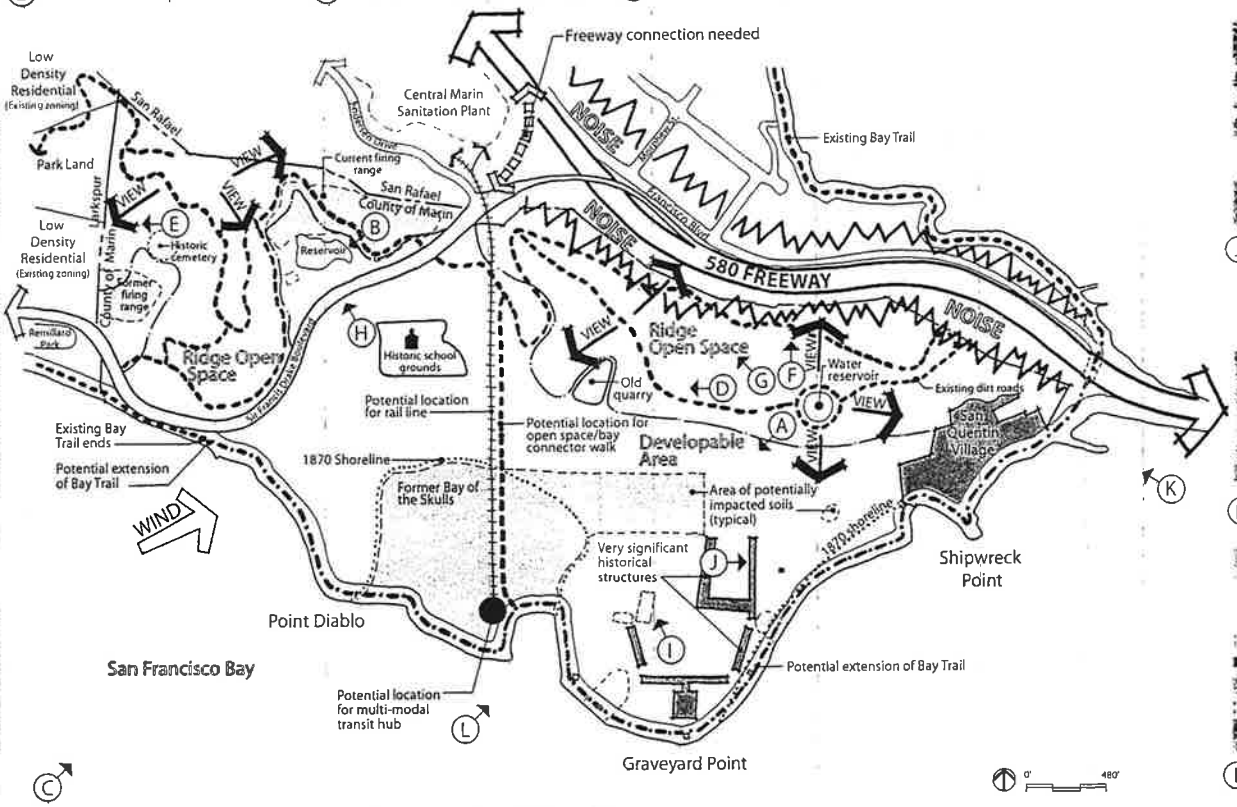

(I) Dining room mural

(C) View from Corte Madera State Ecological Preserve

(J) Prison courtyard

(B) View towards Corte Madera State Ecological Preserve

(A) View facing southwest from site



(L) View of historically significant buildings

(K) View from Richmond

Constraint information based on "Preliminary Analysis of Potential Re-Use, San Quentin Prison", Vol II, May 2001

June 26, 2003

Opportunities and Constraints Diagram
San Quentin Vision Plan

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Town Planning • Plaza Design • Ecological Design • Education
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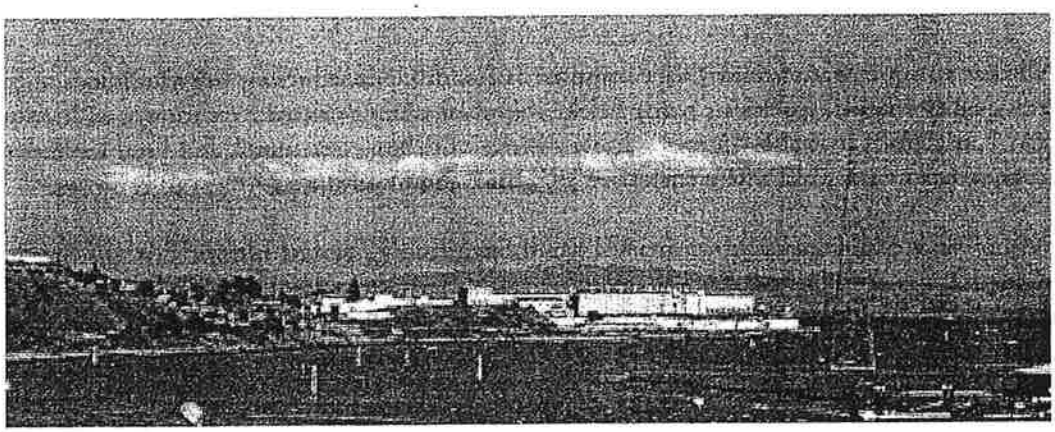
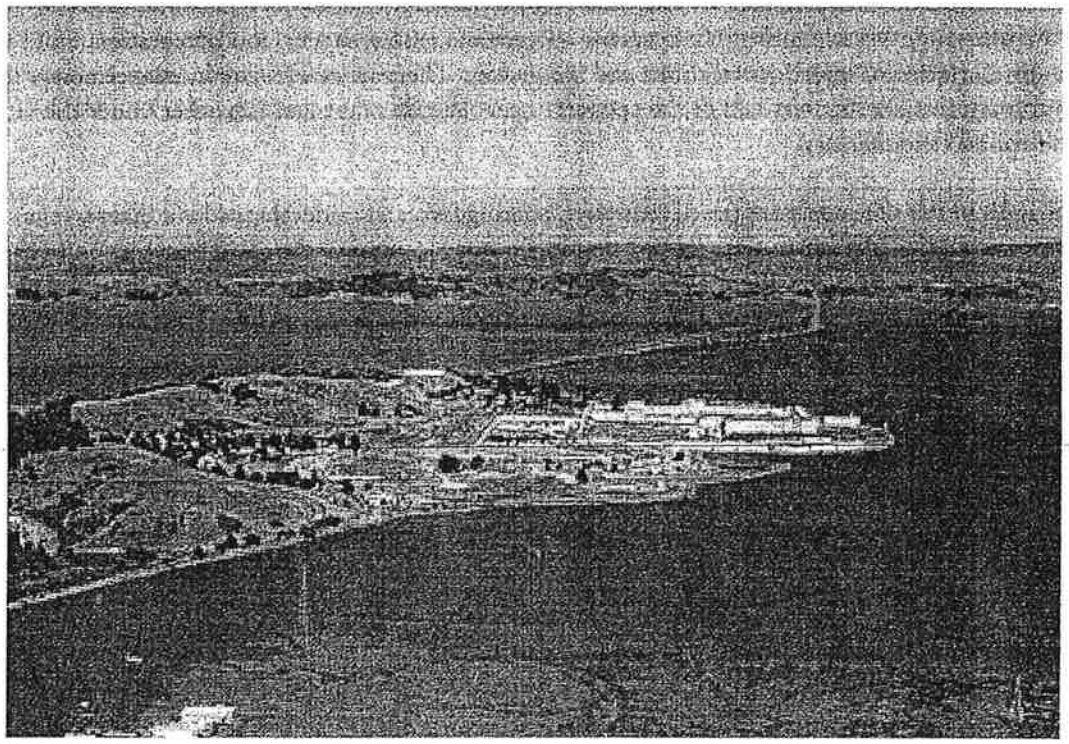
The prison site contains approximately 200 buildings of various ages, construction type and use. The oldest buildings on the site were constructed in the 1850s. There are 86 homes on-site for employees and their families. Activities on-site include dry cleaning, metal working, wood working, photography, furniture manufacture, mattress manufacture, a small scale bronze foundry, laboratory glassware assembly, printing, vehicle maintenance, vehicle fueling, landscaping, outgrounds maintenance, food preparation, and recycling. The site also includes a hospital, dental clinic, and fire station. There are two former inmate cemetery locations on the property, one on the west side of the property near the rifle range and the other under the vicinity of South Block and the infirmary.

The remainder of the site consists of paved roadways, parking lots, and undeveloped land that serves as a buffer to the property line northward to the ridgeline and in various locations in the southwest section of the Site.

San Quentin Village is a small enclave of privately-owned houses nestled against the east side of the site that contains a mix of single family and multifamily housing units, but no commercial or office space. There is a post office immediately adjacent to the prison boundary in the Village.



II. THE VISION FOR SAN QUENTIN



Imagine a vibrant, compact waterfront village comprised of colorful, mixed-income neighborhoods, distinctive pocket parks, quality schools, spacious playing fields, abundant water-oriented recreation, and narrow, tree-lined streets. It is a place that also features a lively district of shops, restaurants, and local services nestled around a magnificent transit plaza where ferries, trains, buses, and multi-use pathways all converge.

Along the shoreline, a broad, public promenade links thoughtfully preserved historic prison structures and nearby homes with award-winning cultural facilities and quiet viewing areas. These are all carefully sited to enjoy the surrounding splendor of open ridgelands and ribbons of riparian vegetation that cascade down the hillsides to a flourishing estuary at the restored mouth of Corte Madera Creek.

Outstanding resource conservation efforts are apparent in the architecture, landscaping, renewable utilities, and other community services. In addition, a longstanding Marin tradition of providing restorative justice and support services to prison inmates continues with the help of exceptional volunteers from Marin and the Bay Area.

III. NATURAL SYSTEMS OBJECTIVES AND POLICIES

A. Existing Conditions

The existing prison use has heavily impacted the natural systems on the site. Natural vegetation is kept trimmed to maintain clearance for defensibility for the existing prison use. In addition, the prison itself precludes a connection for wildlife from the ridge open space to the Bay. The shoreline has been fortified with rip-rap and seawalls to prevent shoreline erosion and to shore up structures close to the bay. The north side of the ridge facing San Rafael remains relatively untouched but the south side has been cut, terraced, and quarried. Lands northwest of East Sir Francis Drake Blvd. are relatively undisturbed except for the shooting ranges.

B. Objectives and Policies

Despite the significant alteration to the natural features and habitats on the site over the years, retention of the remaining pristine habitats along with restoration of damaged habitats, as appropriate, should be incorporated into any reuse scenario.

OBJECTIVE NS-1 Conserve, enhance and restore appropriate plant and wildlife habitats including those on hillsides, ridges, and the bay.

Policy NS-1.1: Avoid commercial and residential development between the 580 freeway and the ridgeline.

Policy NS-1.2: Preserve ridgeline open space.

Policy NS-1.3: Provide a habitat corridor between the ridge and bay.

Policy NS-1.4: Restore habitat on designated undeveloped portions of the site and remove non-native species.

OBJECTIVE NS-2 Maximize the benefits of open space areas.

Policy NS-2.1: Provide for passive and active recreational uses, including walking, hiking, bicycling, water-related activities such as boating, board sailing, and rowing, and nature observation.

Policy NS-2.2: Provide visual and physical access to the shoreline and water including a marina, maritime support facilities, and a Bay Trail segment through the site.

Policy NS-2.3: Connect ridge open space to the Bay Trail with civic spaces such as boulevards and plazas.

Policy NS-2.4: Coordinate the placement of open space and trails to connect with those designated in the Larkspur and San Rafael General Plans and the Bay Trail.

OBJECTIVE NS-3 Maintain or improve existing water quality of the Bay and Corte Madera Creek.

Policy NS-3.1: Use pervious surfaces for drainage swales, driveways, walkways and parking lots where feasible.

Policy NS-3.2: Utilize design aspects that reduce sediment load and pollutant runoff.

OBJECTIVE NS-4 Reduce potential exposure of site residents and visitors to environmental hazards.

Policy NS-4.1: Avoid development in areas subject to seismic, flooding, slide, and fire hazards or provide sufficient mitigation to minimize the hazard potential.

IV. BUILT ENVIRONMENT OBJECTIVES AND POLICIES

A. Existing Conditions

Most structures on the site are on the lower, flatter areas of the property close to the bay. The site is most heavily developed towards the eastern side of the property and that area also contains the greatest number of historic structures.

Starting at the East Gate there are a number of detached, single-family homes, some dating to before 1900, which were constructed as staff housing. These homes face towards on the bay and are terraced up the hill as well. The warden's house and administrative offices are on the western edge of this area, adjacent to the main cellblocks.

In the center of the site is the main compound of the prison. Surrounded by a high stone wall and fortified structures, this area contains the main cellblocks and dining facility, death row, arts and crafts rooms, religious facilities, recreation yards, and the prison industry shops. Much of this area is on a raised plateau which, along with the substantial mass of the structures, gives it its visual prominence, especially when viewed from the bay. The architecture in this area is widely varied ranging from the old-western-town style of the old infirmary to the castellated entry port and south/east/west cellblocks, as well as typical mid-20th century plain concrete structures.

The 'H-Unit' is a relatively new compound of one-story block cell buildings surrounded by a double fence immediately west of the main compound. Northwest of the 'H-Unit' is another residential neighborhood consisting of single-family and duplex-style homes along with the former school building. On the eastern end of ridge is a water tank and former reservoir. West of East Sir Francis Drake are several firing ranges.

Several service roads criss-cross the site and provide access to all areas on the property, encircling the main compound as well as reaching the ridge. Access into the site is provided from two locations: the East Gate through San Quentin Village and West Gate from East Sir Francis Drake Blvd. Utility services to the site are provided by outside agencies, although at one time water and sanitary services were provided by the prison.

B. Community Design Objectives and Policies

The prominence, history, and opportunities of the prison site demand a visionary approach to its reuse. Incorporation of traditional European-style development patterns with a variety of formal and informal public spaces along with varied but compatible design is emphasized in creating a new community on the site.

The Conceptual Land Use Plan diagram illustrates how a potential reuse of the site might develop with a focal point around the community center of a central plaza, multi-story mixed residential and supporting commercial uses, and transportation facilities, all in a pedestrian friendly environment. Going outward from this core the intensity of uses decreases but the basic themes and design components are retained, albeit at a smaller scale. The waterfront remains an open, accessible promenade while connections are provided between key activity areas.

OBJECTIVE BE-1 Create a new, world-class community.

Policy BE-1.1: Use walkable, mixed-use, transit-oriented European communities as design models.

Policy BE-1.2: Promote the siting of cultural facilities and higher education programs or institutions at the site.

Policy BE-1.3: Promote the creation of a model 'green' community.

Policy BE-1.4: Promote the use of alternative models of transportation to provide a convenient lifestyle for residents at a fraction of the energy use of the typical California resident.

Policy BE-1.5: Allow building heights of a minimum of two stories to a maximum of five stories.

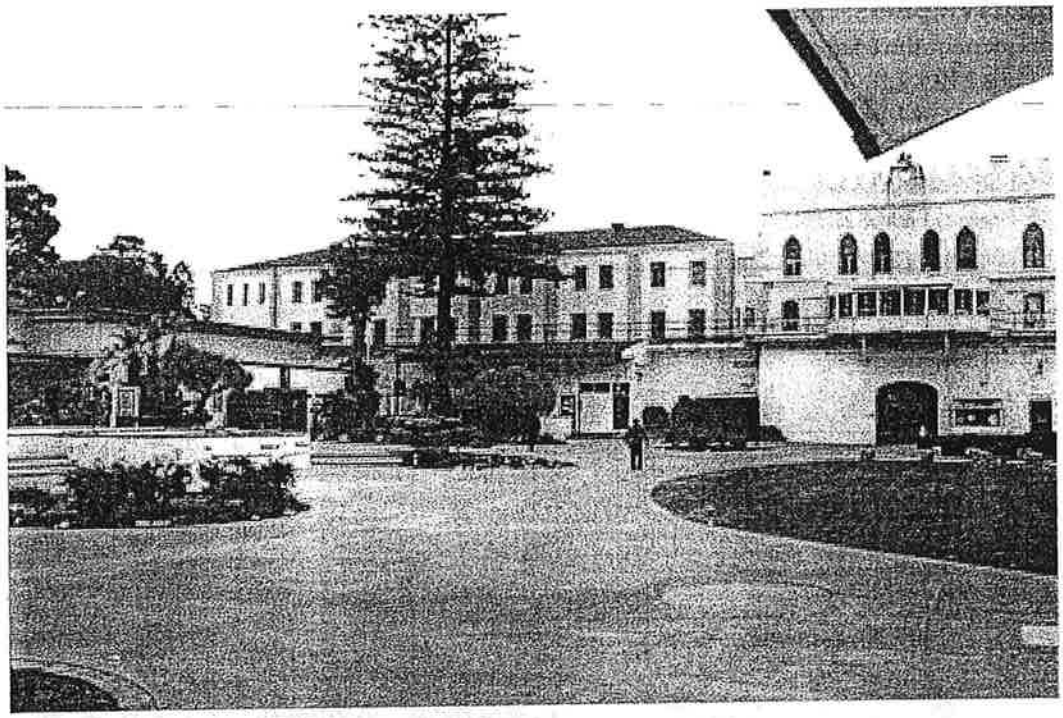
Policy BE-1.6: Establish a base number of 2,100 residential units in a transit village. The number of residential units may increase or decrease depending on how well the specific plan will ensure that project impacts do not exceed specified baseline levels occurring at the time a project is considered.

Policy BE-1.7: Provide for appropriate levels of commercial development complementary to the European-style, walkable community theme and targeting resident- and visitor-serving retail and office space in a mixed-use design format that will complement and support the reuse of the site.

Policy BE-1.8: Focus the greatest density centered around the transit hub, with density decreasing outward from the center.

Policy BE-1.9: Promote development that is of the highest quality.

Policy BE-1.10: Ensure design diversity through utilization of varied architects and designers for individual structures while maintaining the overall theme and intended feel of the community through form-based coding and architectural standards.



OBJECTIVE BE-2 Provide a variety of parks and green space amenities

Policy BE-2.1: Provide a south-facing plaza along the Bay near the transit hub.

Policy BE-2.2: Provide a series of small parks and plazas tucked within neighborhoods.

Policy BE-2.3: Provide a minimum of one lighted sports field.

Policy BE-2.4: Provide a public bayfront promenade that incorporates the Bay Trail, an accessible shoreline, attractive street furniture, public art, and landscaping along the entire bay frontage, and the proposed ferry terminal.

Policy BE-2.5: Provide water-related recreation amenities including a marina and maritime support facilities.

OBJECTIVE BE-4 Promote an interconnected network of streets and paths to provide for a pleasant walking environment and disperse vehicle traffic.

Policy BE-4.1: Provide access points from Sir Francis Drake Blvd. to the site and coordinate with existing intersections, such as at Andersen Drive.

Policy BE-4.2: Avoid cul-de-sacs or other dead-end roadways, although motorized-vehicle access between San Quentin Village and the prison site shall be restricted to avoid increased traffic impacts to the existing neighborhood.

Policy BE-4.3: Provide sidewalks of appropriate width for the street and neighborhood.

Policy BE-4.4: Provide a public way alongside the Bay open space to promote public use and access to the Bay.

Policy BE-4.5: Provide safe and easy pedestrian connections between the eastern and western portions of the site while not impeding vehicular traffic flow.

OBJECTIVE BE-5 Promote improvements to nearby arterials and freeway systems that increase the convenience of the ferry terminal.

Policy BE-5.1: Redesign the I-580/East Sir Francis Drake interchange to allow for access from both directions of I-580, which may impact the lands of the Central Marin Sanitation Agency.

Policy BE-5.2: Consider other off-site freeway improvements such as reconstruction of the I-580/East Sir Francis Drake interchange and improvements at 101/580 to reduce cut-through traffic on East Sir Francis Drake Blvd.

C. Historic Resources Objectives and Polices

Based on a preliminary assessment, it appears that a number of buildings at the site are of varying degrees of historic significance, and that most of the site is probably eligible as an historic district. The State Historic Preservation Office will be consulted in determining the number of buildings that are preserved and reused for private uses. The reuse of buildings may present a variety of structural and economic challenges. While certain buildings should be retained and restored in their original state as being representative of the history of the property, the extent to which other historic buildings can be reused to maintain the historic fabric of the site should be thoroughly evaluated.

OBJECTIVE BE-6 Respect on-site historical resources that tell the story of the prison's history.

Policy BE-6.1: Preserve, at a minimum, the oldest cellblock and the death row/sally port buildings.

Policy BE-6.2: Encourage the creative re-use of historic structures in order to promote their preservation.

Policy BE-6.3: Consider the creation of an 'Historic Park' based on the most architecturally significant buildings at San Quentin Prison.

Policy BE-6.4: Preserve existing murals that are located in the Prison dining halls.

Policy BE-6.5: Provide an appropriate location for a museum focused on the history of the prison on the property.

D. Housing Objectives and Polices

The site provides an ideal opportunity to address the county's significant need for additional housing, including housing for lower income households. To create a vibrant, diverse community it is essential to include housing to meet the wide range of housing needs while at the same time respecting the characteristics of a compact, walkable community. The added benefit is that walkable communities minimize the need for a private automobile. Coupled with excellent public transportation connections, the need and expense of an automobile can be greatly reduced.

OBJECTIVE BE-7 Promote types of housing which support the creation of a pleasant, walkable village.

Policy BE-7.1: Provide a full range of housing types with a focus on attached, higher-density units in a mixed-use setting.

Policy BE-7.2: Integrate market-rate and affordable units throughout the project site.

Policy BE-7.3: Include live-work lofts and similar housing and studio space for artists.

OBJECTIVE BE-8 Exceed adopted requirements for providing affordable housing.

Policy BE-8.1: Ensure that at least 25% of all new housing units are affordable to households earning 60% or less of median household income.

Policy BE-8.2: Obtain available federal, state and local funding for the creation of affordable housing.

Policy BE-8.3: Encourage special housing arrangements, including single-room occupancy hotels that would contribute to and benefit from a walkable development.

Policy BE-8.4: Provide housing above retail uses.

E. Transportation Alternatives Objectives and Policies

To minimize potential impacts on the transportation system from reuse of the site it is crucial that transit and other alternative transportation measures be incorporated into reuse of the site. According to Commute Profile 2002 prepared by RIDES, the current mode split in Marin County is 14% bus/ferry/bike/walk while the mode split in San Francisco is 41% bus/rail/bike/walk. Reuse of the San Quentin site provides an opportunity to design a community less dependent on the automobile. Increasing the mode split for bus, ferry, rail, biking, and walking with a commensurate decrease in the mode split of the single-occupant automobile will complement circulation infrastructure improvements in the vicinity of the site and reduce potential traffic impacts.

OBJECTIVE BE-9 Promote alternate modes of transportation so that the majority of trips made in the community are by bus, ferry, biking, walking, or train.

Policy BE-9.1: Promote the extension of the commuter rail line to San Quentin.

Policy BE-9.2: Provide a single, multi-modal transit facility for bus, rail and ferry.

Policy BE-9.3: Promote the relocation of the ferry terminal from Larkspur to San Quentin. If the ferry terminal is to remain at Larkspur Landing, provide a pleasant pedestrian and bicycle connection between the existing ferry terminal at Larkspur and San Quentin.

Policy BE-9.4: Provide incentives to encourage residents to have fewer cars.

Policy BE-9.5: Provide for pedestrian-only (traffic-restrained) areas near the transit facility. This area could be designed to be permanent or temporary for specific events.

Policy BE-9.6: Promote the grade separation of the rail line where is crosses East Sir Francis Drake Blvd.

Policy BE-9.7: Discourage through trips from the site through the existing San Quentin Village such as by the use of bollards blocking all but emergency use of the connecting streets.

OBJECTIVE BE-10 Utilize creative approaches and design to minimize the amount of parking necessary and have it blend in to the community.

Policy BE-10.1: Reduce the number of allowable parking spaces, such as only allowing one contiguous parking space per residence, in order to reinforce the use of walking and public transit.

Policy BE-10.2: Parking that is provided should blend in with the community through the use of underground parking facilities and well-designed structures that feature uses other than parking at street level. Provide incentives for flexible parking arrangements such as reduced-standard, shared, and tandem parking as well as stackable automated elevator parking garages.

Policy BE-10.3: Parking provided for the ferry and train should be located in well-designed structures that support community character within a reasonable walking distance from the terminal.

F. Natural Resources and Energy Consumption Objectives and Policies

Current operations at the prison already consume a significant number of resources, including being the largest water-user in the county. The new San Quentin community should be designed to minimize the consumption of natural resources, both in its construction and daily function.

OBJECTIVE BE-11 Promote the use of renewable, low impact building materials.

Policy BE-11.1: Provide incentives for the use of 'green' building materials for structures on the site.

Policy BE-11.2: Recapture and recycle building materials through building construction and demolition.

OBJECTIVE BE-12 Minimize resource consumption in the community.

Policy BE-12.1: Promote the development of on-site energy sources using sustainable sources such as solar photovoltaics and wind.

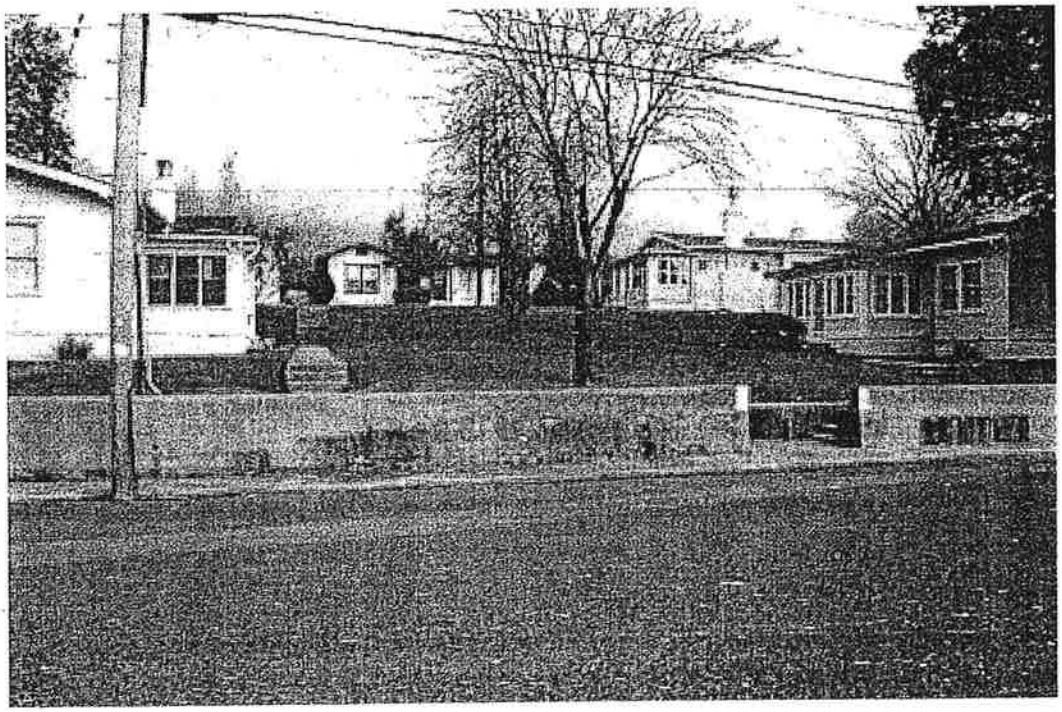
Policy BE-12.2: Utilize water-conserving measures in building construction, site design, and landscaping.

Policy BE-12.3: Provide recycling facilities in multi-unit and nonresidential buildings.

OBJECTIVE BE-13 Promote the development of energy efficient buildings.

Policy BE-13.1: Require energy efficiency in building design to exceed adopted standards.

Policy BE-13.2: Encourage building designs to take advantage of solar orientation and natural cooling principles to reduce energy demand.



V. SOCIO-ECONOMIC OBJECTIVES AND POLICIES

A. Existing Conditions

For inmates serving timed sentences at San Quentin, which excludes Death Row and Reception Center inmates, there are a number of programs offered working towards rehabilitation. Programs include vocational training, education, and crafts. These programs benefit from a considerable number of volunteers who are locally based. Prison advocates state that these programs would not be available elsewhere because of the lack of support services in more remote locations.

B. Objectives and Policies

The central location of the property and the vision to provide multimodal transportation access in its reuse also make the site an ideal location to provide cultural and social facilities and programs. A museum incorporated into the historic core of the site would honor the history of the site while an arts and cultural facilities would provide much-needed space for live performances, exhibitions, and other creative arts, all integrated into the community. Select programs currently occurring at the prison as well as other programs could be accommodated targeting effective rehabilitation and employment training programs as an alternative to current correctional procedures.

OBJECTIVE SE-1 Provide cultural enrichment opportunities on the site.

Policy SE-1.1: Provide suitable locations for cultural facilities.

Policy SE-1.2: Incorporate a museum into the historic park component of the site.

OBJECTIVE SE-2 Consider the creation of facilities and housing as part of the new San Quentin that provides education and rehabilitation to inmates, taking advantage of the local prison volunteer population in Marin County and the Bay Area.

Policy SE-2.1: Consult with the State Department of Corrections, Department of General Services, and other State officials on the feasibility or desire on the State's behalf to operate a smaller prison facility focused exclusively on rehabilitation-qualified inmates and associated programs.

Policy SE-2.2: Consider setting aside some housing, such as group homes, as transitional housing for rehabilitation program participants.

OBJECTIVE SE-3 Provide for the child care and educational needs of the new community and educational opportunities for the community at large.

Policy SE-3.1: Provide appropriate child care and school sites .

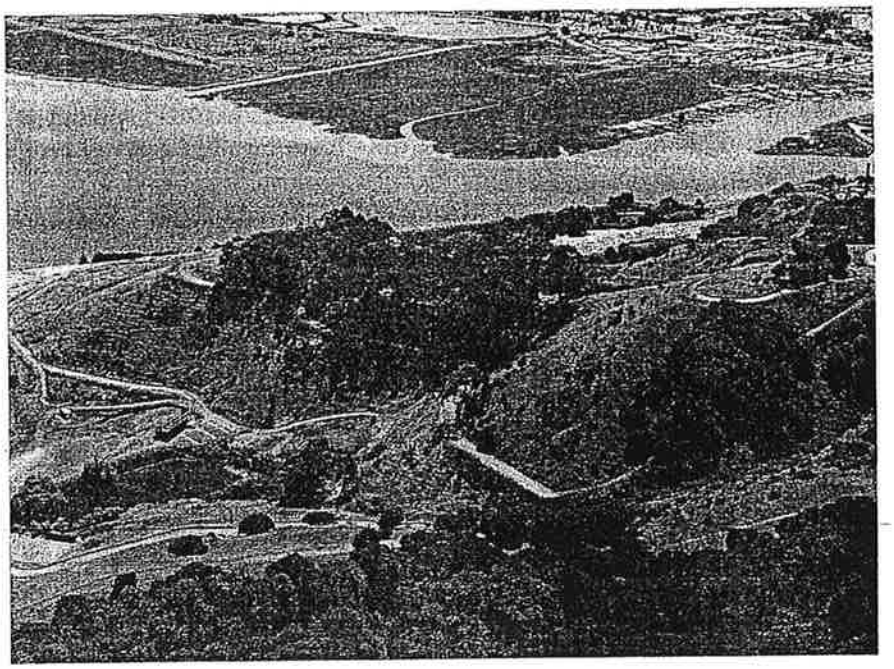
Policy SE-3.2: Provide facilities for higher learning such as university extension programs, vocational training, and other educational opportunities for residents of the project site and community at large.

OBJECTIVE SE-4 Encourage economic diversity

Policy SE-4.1: Provide opportunities and allocate space for small-business incubation.

Policy SE-4.2: Provide a variety of flexible, non-residential spaces for business uses, non-profit organizations, and cultural programs.

Policy SE-4.3: Provide a thoroughly integrated, diverse range of housing types at varying affordability levels.



VI. APPENDIX: THE AHWAHNEE PRINCIPLES

Preamble:

Existing patterns of urban and suburban development seriously impair our quality of life. The symptoms are: more congestion and air pollution resulting from our increased dependence on automobiles, the loss of precious open space, the need for costly improvements to roads and public services, the inequitable distribution of economic resources, and the loss of a sense of community. By drawing upon the best from the past and the present we can first, infill existing communities, and second, plan new communities that will more successfully serve the needs of those who live and work within them. Such planning should adhere to these fundamental principles.

Community Principles:

1. All planning should be in the form of complete and integrated communities containing housing, shops, work places, schools, parks and civic facilities essential to the daily life of the residents.
2. Community size should be designed so that housing, jobs, daily needs and other activities are within easy walking distance of each other.
3. As many activities as possible should be located within easy walking distance of transit stops.
4. A community should contain a diversity of housing types to enable citizens from a wide range of economic levels and age groups to live within its boundaries.
5. Businesses within the community should provide a range of job types for the community's residents.
6. The location and character of the community should be consistent with a larger network.

7. The community should have a center focus that combines commercial, civic, cultural and recreational uses.
8. The community should contain an ample supply of specialized open space in the form of squares, greens and parks whose frequent use is encouraged through placement and design.
9. Public spaces should be designed to encourage the attention and presence of people at all hours of the day and night.
10. Each community or cluster of communities should have a well defined edge, such as agricultural greenbelts or wildlife corridors, permanently protected from development.
11. Streets, pedestrian paths and bike paths should contribute to a system of fully-connected and interesting routes to all destinations. Their design should encourage pedestrian and bicycle use by being small and spatially designed by buildings, trees and lighting; and by discouraging high speed traffic.
12. Wherever possible, the natural terrain, drainage, and vegetation of the community should be preserved with superior examples contained within parks or greenbelts.
13. The community design should help conserve resources and minimize waste.
14. Communities should provide for the efficient use of water through the use of natural drainage, drought tolerant landscaping and recycling.
15. The street orientation, the placement of buildings and the use of shading should contribute to the energy efficiency of the community.

Regional Principles:

1. The regional land use planning structure should be integrated within a larger transportation network built around transit rather than freeways.
2. Regions should be bounded by and provide a continuous system of greenbelt/wildlife corridors to be determined by natural conditions.
3. Regional institutions and services (government, stadiums, museums, etc.) should be located in the urban core.
4. Materials and methods of construction should be specific to the region, exhibiting continuity of history and culture and compatibility with the climate to encourage the development of local character and community identity.

Implementation Strategies:

1. The general plan should be updated to incorporate the above principles.
2. Rather than allowing developer-initiated, piecemeal development, local governments should take charge of the planning process. General plans should designate where new growth, infill or redevelopment will be allowed to occur.
3. Prior to any development, a specific plan should be prepared based on these planning principles. With the adoption of specific plans, complying projects could proceed with minimal delay.
4. Plans should be developed through an open process and participants in the process should be provided visual models of all planning proposals.

The Awahnee Principles were drafted by Peter Calthorpe, Michael Corbett, Andres Duany, Elizabeth Moule, Elizabeth Plater-Zyberk, and Stefanos Polyzoides, architects who have been leaders in developing new notions of land use planning.

Utilize European design approaches

Amphitheater park

Boulevard

Affordable housing

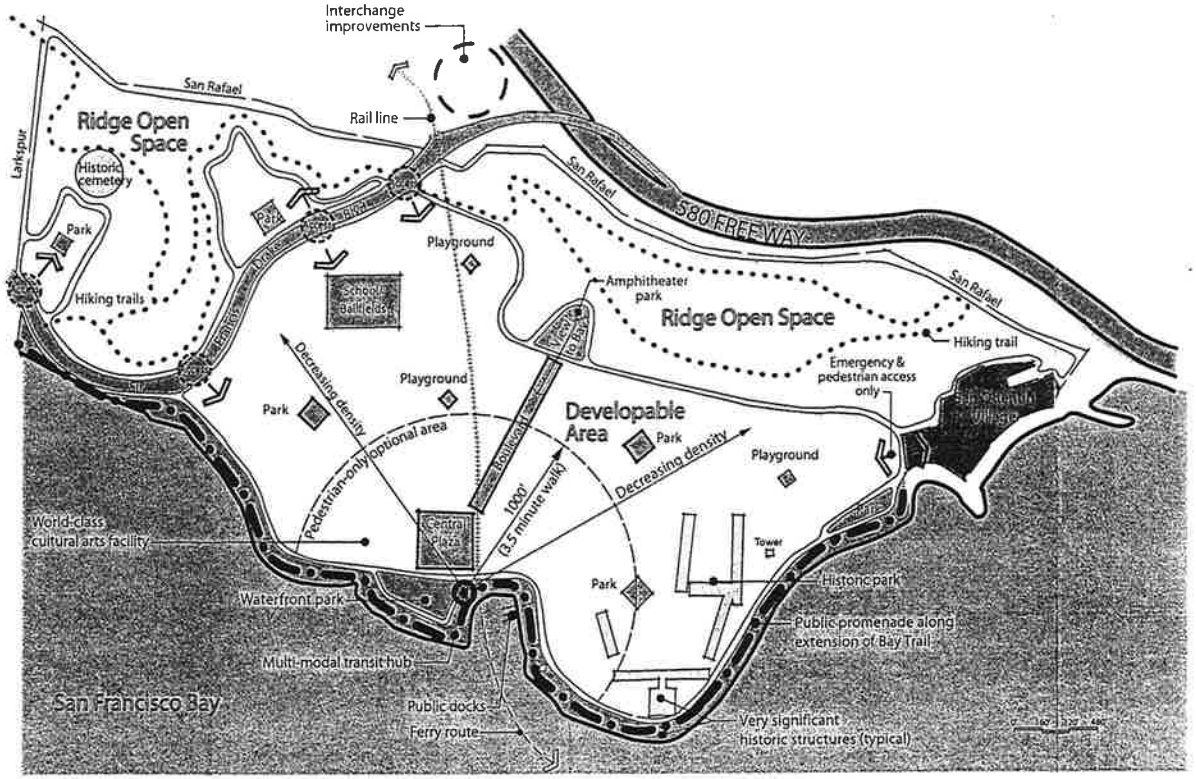
Pedestrian-only optional area

Ridge open space

School / Ballfields

World-class cultural arts facility

Central plaza



Waterfront park

Road along waterfront

Historic park

June 26, 2003

Conceptual Land Use Plan

San Quentin Vision Plan

FISHER & HALL
URBAN DESIGN
Town Planning • Plaza Design • Ecological Design • Education
618 Fourth Street, Suite 203
Santa Rosa, CA 95404
707.544.1910
FAX 707.544.1968

I-1 This comment contains prefatory remarks to more detailed comments that follow in the letter. See responses I-2 through I-10.

I-2 The commenter refers to Circulation Goal 1, Policy n of the General Plan which states, "Do not make capacity improvements to Magnolia Avenue that would encourage additional through traffic." As further discussed below, the proposed mitigation measure for a signal at Magnolia Avenue/King Street is intended for pedestrian safety and to manage potential traffic from the project. It is not intended to encourage through traffic and thus may be found consistent with this policy.

State Government Code Section 65300.5 states that, "..., the Legislature intends that the general plan and elements and parts thereof comprise an integrated, internally consistent and compatible statement of policies for the adopting agency." Although each element of a general plan addresses a specific topic or topics, the adopted goals and policies must not be looked at in isolation, but must be considered as an integrated whole and they must be balanced against other policy direction contained in the general plan. Further, as stated in the State Office of Planning and Research General Plan Guidelines (2003, p. 164), "An action, program or project is consistent with the general plan if, considering all aspects, it will further the objectives and policies of the general plan and not obstruct their attainment."

In considering the issue raised by the commenter, both the Land Use and Circulation Elements should be considered. The Land Use Element currently designates the lands within the Central Larkspur Specific Plan area as Downtown Commercial and Low Density Residential. This Element also includes specific discussions regarding the future use of the Niven Property for low density residential. The Specific Plan is consistent with these primary land use designations; the only land use designation change proposed is to include a park designation within the area currently designated for Low Density Residential.

The Circulation Element of the General Plan includes discussions regarding Magnolia Avenue in the vicinity of the Specific Plan area, as well as goals, policies, and programs also relating to the roadway. Specifically, the Circulation Element, on page 65 of the General Plan, notes, after describing Magnolia Avenue, that "[t]hese conditions combine to create congestion, where it is difficult for pedestrians to cross, and where turning vehicles cause long queues because they do not have the protection of a turn lane." It also notes, on page 66, that "[i]n response to these problems and recent accidents, the City changed the traffic control at the Magnolia Avenue/King Street intersection (adjacent to City Hall) to all-way stop control. (Previously Magnolia Avenue traffic did not have to stop.) This configuration tends to cause congestion at

this location, with queues sometimes extending to adjacent intersections. However, it is easier for pedestrians to cross Magnolia Avenue. Many times each year, Magnolia Avenue is grid locked when traffic diverts from Highway 101 because of an accident." The Magnolia Corridor is discussed further on page 74 of the General Plan, where it states "Based on the changes to the Land Use map as initially proposed by the Draft General Plan, the intersections of Magnolia with King and with Skylark/Dartmouth would operate at less than LOS C. However, the City Council has determined to keep the all-way stops to control the speed and flow of traffic on Magnolia Avenue, and to make it safer for pedestrians to cross." These discussions are provided in the General plan as background information and are not listed as goals, policies, or programs.

The section on the Circulation Goals, Policies, and Programs, starts on page 81, and there is first a list of factors that were considered to develop a consistent, implementable set of Goals, Policies, and Programs for Larkspur. Two of the factors relate to the City's circulation system and to Magnolia Avenue. The first factor is that "Traffic conditions can be expected to degrade to unacceptable levels even if no additional development occurs in Larkspur beyond that already approved. Potential future development will, however, contribute to additional worsening of traffic conditions." The second factor is that, "All-way stop control at several intersections on Magnolia Avenue tends to create bottlenecks to through-traffic, even under existing conditions. The bottlenecks will become much worse in the future."

As noted by the commenter, the Circulation Element Quality of Life (p. 82), Goal 1 states, "Regard quality of life in Larkspur as more important than mobility of traffic." Also listed under Quality of Life, but not noted by the commenter, are Goals 2 and 3, which read as follows:

> Goal 2: Provide safe and efficient local-serving transportation facilities and services for the movement of people and goods.
>
> Goal 3: Ameliorate the impact of traffic on Larkspur's quality of life.

These goals are followed by an explanatory discussion that states, "The circulation system in Larkspur needs to grow and change with the community. Transportation facilities and services need to respond to changes in the community so long as the circulation changes do not adversely affect the quality of life in the city. In other words, while almost any traffic problem can be solved, some solutions can create conditions detrimental to other important aspects of the quality of life. Therefore, it is important to emphasize that the City's priorities lean toward quality of life where implementation of transportation facilities and services is concerned. It also will be important to make the circulation system as useful and safe as possible, and to have coordinated program of implementing improvements." Contrary to commenter's assertions, the General Plan does not prohibit traffic improvements simply because they might have the effect of increasing capacity.

Also as noted by the commenter, Policy n of page 84 of the General Plan states, "Do not make capacity improvements to Magnolia Avenue that would encourage additional traffic." However, Policy j states, "Prepare a program of traffic capacity improvements to ease traffic congestion." And, Goal 17, page 91, states, "Mitigate the traffic impacts of new developments." There are also goals listed on page 90 relating to traffic safety that should also be taken into account. Again, the General Plan clearly contemplates a program of traffic improvements within the City.

No one of these goals or policies can be considered alone. The City must work to accommodate the land uses planned in the General Plan and consider the projects' impacts, and mitigations associated with those impacts, with the City's goals of maintaining the community's quality of life as well as health and safety. The measures proposed to mitigate the traffic impacts of the project are the minimum necessary for pedestrian safety and to accommodate the buildout of the Specific Plan area. In particular, with signalization, the Magnolia Avenue/King Street intersection would operate at LOS C, the City's minimum acceptable standard. It is possible that some of these measures may improve conditions for those who drive through the community, but the through traffic cannot be separated from the community traffic in terms of the mitigations and the mitigations are not proposed for the purpose of accommodating through traffic. It will ultimately be up to the City Council to determine if the measures should be implemented and to what extent. The City Council, as the decision-making body, is the agency responsible for weighing the goals and policies of the General Plan, determining General Plan consistency, and making a decision that will balance those goals and policies to the extent possible to accommodate the planned growth and maintain the community's quality of life.

I-3 Traffic counts used for the DEIR were taken on the following dates:

Intersection Counts:	March 19, 2003	(Wednesday)
	March 20, 2003	(Thursday)
	March 25, 2003	(Tuesday)
	March 26, 2003	(Wednesday)
	March 27, 2003	(Thursday)
24 Hour Traffic Counts:		
Doherty Drive	May 1-7, 2003	(Thursday through Wednesday)
Magnolia Avenue	May 1-7, 2003	(Thursday through Wednesday)

Traffic counts were also taken in May 2002 at four roadway segments. It is noted that the 2002 counts were conducted for the previous DEIR prepared by Lamphier-Gregory and released in June 2002; the 2003 counts were conducted for the revised DEIR released in November 2003. While the ADT information was collected for the purpose of providing background information on traffic conditions, it was not used in the analysis of traffic impacts. Instead, it was the peak hour trip information collected

in May 2003 that was used to assess intersection level of service, which is the basis for the traffic analysis.

With regard to A.M. peak hour traffic, all intersections were counted between 7:00 A.M. and 9:00 A.M. For P.M. peak hour traffic, counts were taken between 4:00 P.M. and 6:00 P.M. This is recognized nationwide as the peak commute period for background traffic. Traffic movements are counted in 15-minute increments over the two hour period, and the highest consecutive four increments are identified as the intersections peak hour. It is this volume total that serves as the basis for intersection analysis. This is the accepted methodology for determining peak hour traffic.

I-4 The DEIR reports data on current traffic volumes. Traffic ADTs shown in the General Plan were collected in the mid-1980s. This information serves a broader historical context but does not represent current traffic and cannot be used to assess potential future traffic impacts of the proposed project. It is worth noting that ADT data is not analyzed in the assessment of the project's traffic impacts, and that this data is susceptible to a measurable range of variability on a daily, monthly and annual basis.

The current ADT counts for Doherty Drive and Magnolia Avenue shown in the DEIR were taken over a period of seven consecutive days, under fair weather conditions, with schools in session and no special events planned. There is neither reason to suspect, nor evidence to suggest that ADT counts taken in May would be significantly different from those taken in September or October under similar conditions. Monthly ADT counts typically do show a shift in volumes during summer months and during extended holiday periods. These seasonal shifts can vary greatly depending on location. Traffic volumes taken in a non-summer month like May are representative of normal daily traffic volumes under typical conditions.

The DEIR does not attempt to explain the decrease in ADT traffic recorded on Magnolia Avenue between 1999 and 2003 solely on slowed economic conditions. There are a great number of factors that may affect the levels of traffic in a given location from year to year. These include economic conditions, major construction and the cost of fuel. Metropolitan Transportation Commission and Caltrans District 4 reported in their Bay Area Transportation State of the System 2003 study that freeway congestion in the Bay area decreased by 5% between 2001 and 2002. In Marin County, freeway congestion decreased between 2000 and 2002 (MTC 2003). The report does point out that overall economic conditions during the interval period were poor and were particularly so in the Bay Area.

The recorded decrease in traffic volume on Magnolia Avenue over the four-year period totals 2,800 vehicle trips daily. However, the peak commute hours at the study intersections generally held steady or showed some increase in traffic between 1999 and 2003. This suggests that patterns of travel related to commute and school activity have not been as affected as off-peak activity. Many factors affect daily traffic volumes, and any attempt at projection at this level of analysis would be speculative. The traffic

counts taken in 2003 are not extraordinary, and the use of this data in the DEIR traffic analysis is valid. It is noted that traffic studies typically include ADT for the purpose of providing background information on traffic condition and for the use of certain types of traffic engineering and analysis. Because of local conditions, it is not used in the analysis of traffic impacts for the Specific Plan. Instead, peak hour traffic movements are used to calculate intersection levels of service, which are the measure used in the DEIR to assess adequacy of roadway capacity and traffic safety.

I-5 Because of concern for traffic conditions in the area, the City required the traffic study to include more site-specific trip generation rates for some of the residential land uses, based on conservative assumptions, rather than the typical traffic generation rates recommended by ITE. The DEIR uses standard ITE trip generation rates for residential uses, with two exceptions. Different ITE trip generations rates are given to land uses with different characteristics, including single-family detached housing, apartment and residential condominium/townhouse. For the DEIR, exceptions to the standard ITE trip generation rates are made because of the size of the housing units, which were determined to be different enough to warrant adjustments. Specifically, higher generation rates were used for the large-size single-family homes and multi-family units. It is noted that the Planning Commission had directed the traffic consultant to derive and use the traffic rate for large-sized single-family homes during the EIR scoping process. The DEIR traffic analysis makes no adjustment to residential trip generation based on the distinction between market-rate housing and affordable housing. Details of assumptions used in the traffic study for the Monahan Pacific/EAH Initial Study are not relevant to the traffic analysis for the Specific Plan because the Monahan Pacific/EAH project has defined square footage for the apartment units proposed in that project, whereas the square footage of the multi-family townhome units in the Specific Plan may change depending on the size of the lot. This would not be determined until specific development proposals are submitted to the City. Also noted is that while the Monahan Pacific/EAH traffic study took a conservative approach toward traffic analysis, the traffic generation rates used (0.51 trip in the A.M. peak hour and 0.62 trip in the P.M. peak hour) in the Monahan Pacific/EAH traffic study (TJKM Transportation Consultants 1998) is lower than the traffic generation rates (0.56 trip in the A.M. peak hour and 0.76 trip in the P.M. peak hour) used for multi-family homes in the traffic study for the Specific Plan (see DEIR Table 4.7-5). Therefore, the traffic volume estimated for the Specific Plan is even more conservative than that estimated for the Monahan Pacific/EAH project. Please also refer to response to Comment K-1.

I-6 DEIR Table 4.7-10 shows the LOS of existing conditions with Specific Plan-generated trips added. This is different from built out conditions in that trips from new development elsewhere in the city are not included in Table 4.7-10. Instead, the LOS at buildout conditions is shown in DEIR Table 4.7-13, which shows LOS of existing traffic volume plus volumes from the Specific Plan and other new developments. As shown in Table 4.7-13, the A.M. peak hour LOS for the intersection of Doherty

Drive/Riviera Circle would be LOS E, which is the same level of service estimated by the City's traffic engineer for buildout.

I-7 Comment noted. See response to Comment I-8.

I-8 The recommended traffic improvements are not unusual traffic configuration for intersections, and would not contain features that would pose additional traffic hazards (e.g., restricted lines of sight, excessive speed). The comment does not provide evidence to suggest a left-turn lane would pose a hazards for patrons of the Left Bank Restaurant and other pedestrians. The inference that safety would be impaired is speculative and unsupported.

Mitigation Measures 4.7-2 and 4.7-9 in the DEIR do not include a new through lane. Instead, the mitigation measures include maintaining the intersections as they are currently with the exception of new turn pockets created from existing on-street parking spaces. The intersections are fully improved with sidewalks, curbs, and gutters. The intersection of East Ward Street/Magnolia Avenue is and would continue to be signalized, and the future mitigated intersections would be timed to provide adequate and safe crossing for pedestrians.

I-9 The commenter refers to the following sentence on Page 3-8: "However, this alternative would make less of a contribution toward helping the City to meet its fair share of the regional housing need than would either the Proposed Project or the Residential Focus Alternative." It is not the purpose of this sentence or the DEIR to reject the Lower Density Alternative. The City Council will determine whether to approve or reject the project or the identified alternatives. Consistent with CEQA, the DEIR assessed the impacts of the alternatives (DEIR, Chapter 6) and identified this alternative as a feasible alternative and the environmentally superior alternative (DEIR, page 6-24). It is outside the scope of the proposed project and the DEIR to assess how the City is meeting its overall housing goals. Instead, the DEIR discloses the potential for the alternative to contribute to the City's existing affordable housing stock, which is among the project objectives. (DEIR, pages 2-5 to 2-7.)

I-10 Please refer to the responses to Comment I-9 regarding alternative ways the City can meet its housing goal, and to Comment A-13 regarding the San Quentin Prison property.

TAMALPAIS UNION HIGH SCHOOL DISTRICT

TAM 21st Century

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California Distinguished Schools: Tamalpais, Drake and Redwood High Sch

J

January 28, 2004

Mr. Robert Pendoley
Consulting Planner for the City of Larkspur
City of Larkspur
400 Magnolia Avenue
Larkspur, CA 94939

Dear Mr. Pendoley,

The Tamalpais Union High School District (TUHSD) has over the past many years worked successfully with the City of Larkspur with mutually beneficial results on a variety of projects from the maintenance of the Redwood High School Slough Pump to the installation of a joint use data trench across the Redwood High School Campus. This open channel of communication, mutual cooperation and team work has fostered a standard by which both parties approach issues. When the "Revised Draft Environmental Impact Report - Central Larkspur Specific Plan" prepared by EDAW and dated 11/14/03 and the "Draft – Central Larkspur Specific Plan – Planning Commission Draft" dated 11/03 were publicly issued by the City of Larkspur, TUHSD met with the City of Larkspur and you, Mr. Pandoley, to review the District's concerns and work together on how to proactively direct the District review comments into this Revised Draft EIR response letter. The District is confident that the following issues identified by the District as having a direct impact on the safety of the students and the functioning of TUHSD's facilities will be taken into consideration and addressed in earnest by the City of Larkspur. These issues have been separated into two comment categories; *California Environmental Quality Act (CEQA) Comments* in response to the Revised Draft EIR and *CLSP Policy Comments* in response to the Central Larkspur Specific Plan. J-1

TRAFFIC AND PARKING

1) *CEQA Comment* - Currently Doherty Drive is overused and cannot accommodate the volume of traffic generated. *The District is concerned that addition of 132 housing units and up to 143,700 office space identified in the CLSP Table 4.1 "Land Use Allowance" will worsen the existing 20-25 minute backup traffic time along Doherty Drive during peak hours and poses a safety concern for it's students. The District does not believe that the EIR mitigates increased traffic volume along Doherty.* J-2

Section 4.7-5 of the Revised Draft EIR identifies that an ADT traffic count was taken in May 2003 at only one location along Doherty Drive adjacent to Hall Middle School. It should be noted here that this count revealed that the weekday traffic along Doherty Dr. had increased by 4% since 1999. *This location does not address the volume of traffic related to the Redwood High School complex and Larkspur Landing. The District requests that ADT traffic counts be done at Riviera Circle and at the intersection of Lucky Drive and Doherty Drive so that a more accurate assessment of volume along the entire length of Doherty Drive is known.* J-3

Table 4.7-7 "Summary of Daily and Peak Hour Specific Plan New Vehicle Trips at Maximum Land Use Intensity" identifies only 51.1,000 (46.6 + 4.5 units/1000 sf.) square feet of "retail". Table 4.1 "Land Use Allowance" of the CLSP totals "commercial/mixed use" from 105,414 to 143,700 square feet. *Table 4.7-7 does not account for the traffic generated by up to 92.6,000 sf of potential "retail".* J-4

2) *CLSP Policy Comment* - CLSP Table 5-1 "Central Larkspur Specific Plan Parking Standards" identifies parking for multifamily units and the cottage homes, which are 1 and 1.2 spaces per unit respectively. *If these cottage units can be upward of 2000 sf, 4-6 people could live comfortably in a unit which means there could be parking needs of 3 cars per unit. The City of San Rafael requires 1.5 parking spaces per 1 bedroom and 2 per 2 bedrooms. The District believes that the parking standards identified in CLSP Table 5-1 are not sufficient. The District is also in support of increasing the number of units specifically set aside for senior housing, both market rate and affordable, as a method of reducing the volume of traffic and number of parking spaces required.* J-5 J-6

3) *CLSP Policy Comment* - The CLSP identifies the possibility of a library in lieu of Public Parking in Sub-Area 1. In Sub-Area 3 (the residential PUD area of the Central Larkspur Specific Plan (CLSP)) the CLSP states that a Public Parking Lot would be permitted with access from Ward Ave. *The District supports these existing 28 city public parking spaces displaced by a new library being required, rather than permitted, and that they are accounted for separately from those required for development as identified in CLSP Table 5-1 "Central Larkspur Specific Plan Parking Standards".* J-7

4) *CLSP Policy Comment* – With Mixed use development, the CLSP allows for a 20% reduction in the number of required parking space identified in CLSP Table 5-1 "Central Larkspur Specific Plan Parking Standards". *The District does support the adoption of this policy.* J-8

5) *CLSP Policy Comment* – The CLSP identifies that 'one side' street parking is to be provided with this plan. At issue here is that it is not known how many linear feet of roadway will be built as part of this project, hence, the parking count yield cannot be ascertained. *The District requests that this policy be quantified with at least a minimum number of street parking spaces being identified; such as one street parking space per residential unit.* J-9

6) *CEQA Comment* - Two roadways from the Niven Sub-Area 3 will enter and exit onto and from Doherty Drive. Only the roadway entrance onto Doherty across from Larkspur Plaza is planned to have a traffic signal. One of these roads is within 25' of the Larkspur Creek and close to the Tamiscal High School/Tamalpais Union High School District Corporation Yard driveway. *The District is concerned about student safety. Having Hall MS traffic, Doherty, Niven and Tamiscal traffic all converge at one hub may be too confusing and pose a safety issue as well as another point of congestion. Similar to the Redwood entrance, a four way stop requires the driver to orchestrate movement of other cars, students crossing and bike lane traffic. The District requests a police accident report history for the following intersections:* J-10
   a. *Redwood High School west parking lot entry, Doherty Drive and Riviera Circle intersection.*
   b. *Magnolia and Doherty Drive intersection*

c. *Doherty Drive, Larkspur Plaza, Albertsons entrance (albeit 100 feet or so away) and Hall Middle School Entrance intersection.* J-10 Cont'd

The District also requests that a "Cumulative Intersection Level of Service Study" be done once the development is in place to determine if a traffic signal is warranted. J-11

7) *CEQA Comment* - The Revised Draft EIR Section 4.7.3 "Level of Significance After Mitigation" identifies that the CLSP would have no significant impacts on traffic and circulation if; 1) A traffic signal at Doherty Drive/Riviera Circle/Redwood High were installed, 2) Street parking were removed and Southbound and Westbound Left Turn Lanes were added at East Ward Street/Magnolia Ave., 3) A traffic signal at King Street/Magnolia Ave. were installed, 4) A detailed Construction Traffic Control Plan were prepared and implemented, 5) The traffic signals at Fifer Ave/Tamal Vista Blvd. were optimized and coordinated 6) the northbound approach to provided dedicated right turn and through land at Wornum Drive and Tamal Vista Blvd., and 7) A traffic signal at Doherty Drive/Piper Park were installed. *The District has concern that these mitigation measures would not reduce traffic volume but rather increase travel time, because, ultimately the CLSP adds traffic to Doherty Drive. Why has daytime traffic increased 4% over the last four years along Doherty Drive as identified in Table 4.7-1 "Summary and Comparison of Average Daily Traffic Volumes"? When did the Madera del Presidio development bring their units on the market? What mitigation measures were required with this development and were they enforced? Further, parking is reduced with the removal of street parking at Ward St./Magnolia Ave. Where will this displaced street parking be relocated?* J-12 J-13 J-14 J-15

8) *CLSP Policy Comment* – CLSP Figure 5-2 "Doherty Drive Section" eliminates the pedestrian way and identifies a 9'-6" Class 1 bikeway for Phase III of the Doherty Drive improvements. It does not identify a pedestrian way. Impact 4.7-5 in the Revised Draft EIR identifies that this Class 1 bikeway is to be integrated for pedestrians and bikers. *The District does not support this shared bike/pedestrian way for safety reasons but requests separation of bikeway from pedestrian way.* J-16

9) *CLSP Policy Comment* – It is unclear how this 9'-6" Class I bikeway on the south side of Doherty Drive will connect to the 4'-0" wide Class II directional street bikeways on both the North and South sides of Doherty Drive at the intersects with the Redwood High School entrance that were built as part of Increment I & II of the Doherty Drive improvement. *Please clarify.* J-17

10) *CLSP Policy Comment* – A Class I Bikeway is identified in Figure 7-19 "Illustrative Plan for Doherty Drive/Larkspur Plaza Drive Intersection Showing Recommended Design Treatments" extending from the intersection and continuing east. This figure does not show this Class I bikeway extending west or connecting to Magnolia Ave. The current Doherty Drive entrance from Albertsons extends approximately 50' wide between the Union 76 Station and the Baskin Robbins where multiple cars line up together to pull in, out, right and left while at the same time coordinate with pedestrians & bicyclists. *The District is concerned for student safety. Bikeway travel should be consistent through the entire Specific Plan Area (see CLSP Figure 2-1 "Central larkspur Specific Plan Boundaries"). The District supports a bikeway extending to Magnolia Ave., connecting bike traffic from either direction on Magnolia to the bikeway at the Larkspur Plaza intersection and the creation of a driveway with crosswalk at the Doherty Drive* J-18

Albertsons entrance. The District also requests the police accident history for this Albertsons entrance area. J-18 Cont'd

UTILITIES, SOILS AND GROUNDWATER

1) *CLSP Policy Comment* – The CLSP page 6-3 identifies that the majority of the water from Subarea 3 will drain through a 42" storm line into the bay directly across from the Tamiscal and Redwood High School Campuses. Doherty Drive and the Redwood High School west parking lot currently flood with the bay movement on a high tide, heavy rain day. The addition of hard surface run-off from 16 acres would lengthen the duration of flooding. *Are the CLSP page 6-4, Policy 9, Standards 2, 3 & 4 for Storm Drainage Facilities Design more or less stringent than 25 Year Flood design standards? The District requests to be involved in the actual design of the detention/retention swales and that they be designed and maintained so as not to become mosquito producing stagnant swales where most often no landscaping remains.* J-19

2) *CLSP Policy Comment* – CLSP 6-2 "Utilities Policies and Standards – Sanitary Sewer" identifies that there is sufficient capacity at Sanitary District #1 – Ross Valley treatment station to serve the maximum development permitted by the Plan but that the existing sewer lines across Subarea 3 will have to be re-routed off-site, a 10" main will have to be replaced and the pump station will have to be upgraded. *The District requests involvement as to where the pipe will be re-routed off-site so not to impact the District's facilities and/or property, as well as confirmation when the actual development is designed that the sanitary sewers are sufficient to support the District's facilities and be fully operational with continual service.* J-20

3) *CLSP Policy Comment* – CLSP 6-2 "Utilities Policies and Standards - Water" identifies that there is sufficient water to serve the maximum development permitted by the Plan. *The District requests confirmation when the actual development is designed that the water flow pressure is sufficient to support the District's facilities and meets the Division of the State Architect's fire flow rates established for the District's in-place sprinkler system.* J-21

4) *CLSP Policy Comment* – It is unclear how the site will be graded. Extensive infill may potentially surcharge the soil causing differential settlement in the area. Grading and compaction may also change the routing of the underground water sources. Both of these issues may affect Tamiscal/CY/Redwood. *The District requests involvement in the analysis and development processes related to the Niven property soil and ground water issues and confirmation that the actual design will not have adverse soil surcharge nor ground water flow change that will affect the TUHSD facilities and/or property.* J-22

5) *CLSP Policy Comment* – CLSP Policy 33, Standard 16 identifies that development can occur 25' away from the Larkspur Creek. *The District is concerned that development along the creek be screened with either an actual fence or dense, high growth landscaping to separate the residential use group both visually but also from the noise generated from the Districts Corporation Yard and Tamiscal High School.* J-23

LAND USE

1) *CLSP Policy Comment* – CLSP Policy 28 "Housing Types". The CLSP states that the city will purchase 1.5 acres for affordable housing, consisting of 27 very-low, low & J-24

moderate-income housing, 40%-50% of these units shall be senior housing. *The District supports affordable housing. The District is also in support of increasing the number of units specifically set aside for senior housing, both market rate and affordable, as a method of reducing the volume of traffic and number of parking spaces required.* J-24 Cont'd

2) *CLSP Policy Comment – The District is in support of Policy 31 "Standards for Residential Development", Standard 14 "Standard for Locally Employed Persons" however, request that this policy be quantified. Who authorizes or regulates the priority given to locally employed persons?* J-25

3) ***CLSP Policy Comment*** – CLSP Land Use Policy 35. "Public Park, Land Use" states that public park shall be provided. The only park space specifically identified in the CLSP is that in Policy 19. "Doherty Park to be Retained" and in the Revised Draft EIR 4.9.1, "Environmental Setting, Parks and Recreational Facilities", which is a small sliver of land (9674 square feet) bordering busy Magnolia Avenue and adjacent to the Union 76 gas station; a visual park at best. CLSP "Appendix B – General Plan Amendment". The CLSP states that a public park 'shall be permitted' rather than *required* for Subarea 3. The General Plan states that the Niven Nursery includes parkland and that a neighborhood park is planned for the Niven Nursery site. *The District requests that the Niven Nursery parkland requirements be minimally quantified. The CLSP local community is under-serviced with recreational amenities such as an indoor recreation center and currently uses both the Hall Middle School and Redwood High School facilities as well as Piper Park. The District supports additional parkland and more specifically, an indoor recreation facility that would service the community during inclement weather and those not involved in field sport.* J-26

The Tamalpais Union High School District is confident that these review comments will be taken into consideration and addressed in earnest by the City of Larkspur. We believe the cooperative spirit in which we have worked will create a better project for everyone.

Sincerely,

Arvo Toukonen
Assistant Superintendent
Administrative Services

J-1 Comments noted. Responses to each comment provided in Comment Letter J, from Tamalpais Union High School District (January 28, 2004), are presented below. In addition, any pertinent edits to the text of the DEIR are identified in Chapter 3 of this Final EIR.

J-2 Doherty Drive experiences traffic congestion for approximately a 20-minute period in the morning when the start of classes and the background commute (i.e., trips to work from home) overlap. In the afternoon, congestion at the high school spikes for approximately 20 minutes as students depart the area. The afternoon background commute period begins to build starting at 4:00 P.M. and peaks typically between 5:00 P.M. and 6:00 P.M. Doherty Drive is designed as a two-lane arterial connecting the downtown to the freeway. The design capacity of this roadway is approximately 1,700 vehicles per hour. The practical capacity of Doherty Road is less when factors such as pedestrian crossings, parked vehicles, free flow speeds, number of signals, number of driveway cuts and other criteria are considered. The practical carrying capacity based on Highway Capacity Manual (HCM) 2000 criteria is estimated at about 1,400 vehicles per hour.

Currently, Doherty Drive carries about 12,000 daily weekday vehicles, 1,000 A.M. peak hour weekday vehicle trips and 1,100 P.M. peak hour weekday vehicle trips. The roadway is adequate in terms of design and function for the current level of demand. The proposed project would add additional 60 vehicle trips to Doherty Drive in the vicinity of the high school during the A.M. peak hour and approximately 100 vehicle trips during the commute P.M. peak hour. The proposed project's contribution of new traffic during the afternoon high school 3:15 P.M. to 3:45 P.M. peak would be less than contribution to either of the background commute peak hours, since it is expected that, given the relatively short distance between the school and the Specific Plan area, a large proportion of the high school students who live in the Specific Plan would walk to school. The contention that Doherty Drive is overused is inaccurate. Instead it should be characterized that, during the peak periods described above and in the DEIR, the intersection of Doherty Drive/Riviera Circle/Redwood High School would operate at levels of service under project and cumulative conditions that are considered unacceptable by the City. The intersection of Doherty Drive/Piper Park would operate at unacceptable levels of service under cumulative conditions. The proposed mitigation measures in the DEIR would not reduce traffic volumes on Doherty Drive. Instead, the mitigation measures proposed along the Doherty Drive corridor would improve future conditions so that peak hour traffic with and without the buildout of the Specific Plan area would operate at acceptable levels of service as defined by the City in the General Plan.

J-3 The ADT count taken in May 2003 was positioned to receive optimum information in close proximity to the Specific Plan area. A comparison of peak hour through-counts at the study intersections along Doherty Drive indicate that the 24-hour counts taken near Hall Middle School are representative of the through traffic activity along the length of the roadway. It is noted that traffic studies typically include ADT for the purpose of providing background information on traffic conditions and for the use of certain types of traffic engineering and analysis, such as larger-scale, region-wide traffic models conducted by regional agencies like ABAG and Caltrans (i.e., for freeway links and major arterials). There is no established methodology available to calculate intersection LOS based on ADT volumes. In short, ADTs are useful as a descriptive tool and more important as a regional model element but not for local roadway intersections. Instead, consistent with traffic modeling typically developed for more localized areas and consistent with the City's traffic model, the focus of the DEIR traffic analysis is peak hour operations, with regard to which the EIR provides an assessment of traffic conditions in and around the high school. In short, the traffic counts conducted for the DEIR are adequate for the analysis recommended by ITE and required by CEQA. Also see response to Comment I-4.

J-4 Table 4.7-7, Summary of the Specific Plan Vehicle Trips, provides a complete estimate of the proposed project. Table 2-7, depicts the maximum theoretical buildout of the Specific Plan area, and Table 4.7-6 depicts the amount of new land uses allowable under the Specific Plan that would generate the maximum number of vehicular trips. The square footage of new retail in Subarea 1 as shown in Table 2-7 is incorrect; that is, the Table 2-7 incorrectly shows 58,100, which is the square footage for both existing and new retail (also see Table 2-4). FEIR Chapter 3 includes text revision to Page 2-23 to show the correct square footage, which is 46,565. With this correction, Table 2-7 and Table 4.7-6 are consistent.

The commenter also points to the amount of retail use in Subarea 1 in Table 2-1 and Table 2-7 as a potential inconsistency. Table 2-1 shows the range of land uses that are possible in the Specific Plan area. Specific to Subarea 1, the primary restriction to land use is the floor-area ratio (FAR). In other words, a number of combinations of retail and residential land uses are allowable in Subarea 1 as long as the land use density and intensity are not exceeded. In order to assess the worst-case environmental effects, Table 2-7 shows the combination of new land uses, including a hotel based on bonus square footage, that would generate the largest volume of traffic trips. Table 2-1, however, shows the range of existing and new land use that may be accommodated in the Specific Plan area. The tables show different sets of data and are, therefore, not considered to be inconsistent.

Table 4.7-6 and the corrected Table 2-7 show the combination of land uses that would result in the highest traffic volume. For this reason, traffic impacts are not understated, and further revisions of the DEIR, with regard to traffic volume analyzed, are not necessary.

Page 2-23, Table 2-7 is revised as follows:

Table 2-7 Theoretical Maximum Intensity in Development Subareas						
	Subarea 1		Subarea 2		Subarea 3	
	New	Total	New	Total	New	Total
Single-Family (<3,000 square feet) (units)	0	0	0	0	7	7
Single-Family (>3,000 square feet) (units)	0	0	0	0	28	28
Multifamily Residential (units)	0	0	19	19	27	27
Cottage Residential (units)	0	0	0	0	23	23
Hotel/Inn (rooms)	36	36	0	0	0	0
Retail (square feet)	~~58,1004~~ 6,565	58,100	4,500	67,600	0	0
Source: Wilbur Smith Associates 2003						

J-5 A cottage home unit is required to provide 1.2 parking spaces. The 0.20 portion of the requirement can be met in a common on-site parking area. According to the Specific Plan, cottage homes may be up to 1,980 square feet. The comment notes that a unit of this size can easily house four to six individuals; however, according to the California Department of Finance statistic for January of 2001, the number of residents per housing unit in the city is less than 2 persons. The proposed parking standard for multifamily housing is the standard currently used for residential development in the Storefront Downtown and Transitional Downtown zoning districts (i.e., Residential: 1.0 space per dwelling unit) (Municipal Code §18.41.150 and 18.45.150), which apply to Subareas 1 and 2. The proposed parking standards would not change the residential parking standards that currently apply to properties in Subareas 1 and 2.

The multifamily parking standard is judged to be adequate for Subarea 3 for the following reasons:

- 40 to 50% of the 27 multifamily units will be restricted to persons 62 or older. The one-space-per unit standard is not an unusual standard used for senior housing. For example, City of San Rafael requires 0.75 parking spaces per senior housing unit (San Rafael Municipal Code § 14.18.040). The proposed standard is effective because vehicle-ownership rates decrease with the age of householders (NPH 2004).

- All of the multifamily units in Subarea 3 will be limited to residents with very low, low and moderate incomes. A Non-Profit Housing Association of Northern California study of the relationship between income and vehicle ownership in the Bay Area conducted in 2001 found that the average rate of vehicle ownership in these income brackets ranged from 0.85 to 1.81 vehicles per household, with an average of 1.37 for all three income groups combined. For the Very Low Income group, the average rate of vehicle ownership is 0.93. These average rates are lower than the average of 1.76 vehicles per household for all income levels combined. (NPH 2004).

The Citizens Advisory Committee for the Central Larkspur Specific Plan recommended a parking ratio of 1.2 spaces per unit for cottage homes as a way to attract residents who work in the immediate area and/or prefer to use alternative modes of transportation. The committee also recommended this standard in consideration of Transportation Policy 35, which requires on-street parking for streets 26 feet wide or wider.

The current requirement of 1.2 spaces per cottage home unit is expected to be adequate for units up to 1,200 square feet. Any development proposed for Subarea 3 and considered by the City would be required to meet parking standards, and demonstrate available on-site and off-site parking. If the City determines, based on the size of the units proposed or other reasons, that additional parking should be provided, it has the discretion to require it as a condition of project approval. For purposes of analysis in the DEIR, provision of parking that meets City standards and availability of on-street or common lot parking would be adequate.

J-6 Comments regarding City of San Rafael parking requirements and the support of increased senior housing are noted. See response to Comment J-5.

J-7 This comment on the proposed Specific Plan is noted. As no environmental issues are raised, no further response is required.

J-8 Comment noted. No further response is necessary.

J-9 A precise plan for the Specific Plan area is not currently proposed, and on-street and common area parking facility developments are at this time conceptual. Thus, precise quantification of parking spaces is not possible. However, the policies related to Subarea 3 parcel appear to provide more than enough on-site area (including roadside curb) to provide required parking for the planned residential uses. Due to the rectangular shape of Subarea 3 and its relatively large size, conventional road and lot configurations, which would allow for adequate parking on one side, are feasible. Single family homes will provide a minimum of 18 feet of driveway length in order to provide a third parking space. Common parking areas have been identified to provide for resident and guest parking. As plans are developed, the parking supply will be specifically identified. In terms of the ultimate (required yield) number of parking

spaces required, there is no evidence to suggest that these needs cannot be provided in the Specific Plan area.

J-10 The Larkspur Plaza Drive/Doherty Drive intersection improvement plan, which is identified in the Specific Plan Transportation Policy 3, has been under consideration for several years. This improvement is designed to provide enhanced safety to pedestrians and bicyclists, and promote clear and efficient circulation for traffic on the minor approaches (Larkspur Plaza and the proposed driveway from the Specific Plan area). The new intersection would be signalized and would be timed to give precedence to and adequate crossing times for pedestrians and bicyclists during peak periods of use. The signal would also provide a manual override for pedestrians and bicyclists for use during non-peak times. The design and signalization of this intersection would be implemented under mandated engineering procedures, and with separate City approval.

The commenter requests traffic accident data at three specific intersections. According to the Twin Cities Police Department, the accident rates at the intersections of Redwood High School west parking lot entry/Doherty Drive/Riviera Circle, Magnolia Avenue/Doherty Drive, and Doherty Drive/Larkspur Plaza/Albertsons entrance/Hall Middle School Entrance are considered low, with one or two accidents per year at these three intersections combined since 1998 (McDuffy, pers.comm, 2004). In addition, Twin Cities Police Department publishes The Yearly Traffic Report. This report provides an overview of citywide traffic accidents, including information on location and type (i.e., auto, pedestrian, bicyclist) of incident (see Appendix F-5). However, this data does not provide incident information for each intersection in the city. Data from the Yearly Traffic Report 2003 is provided below.

In 2003, Twin Cities Police Department investigated 88 traffic collision reports, which represents an 8% decrease from the previous year (96 in 2002). Injury accidents increased by four from 41 in 2002 to 45 in 2003, including a fatal injury sustained by a bicyclist. Of the 88 collisions in 2003, 75 occurred on city streets. Key locations and the percent of the 45 total injury accidents are as follows:

East Sir Francis Drake Boulevard	14 collisions	31%
Magnolia Avenue	9 collisions	20%
Sir Francis Drake Boulevard	8 collisions	17%
Doherty Drive	4 collisions	8%
Larkspur Plaza	1 collision	2%

In terms of collision accidents involving injuries, the categories include the following:

Motorcycles	2 incidents	4%
Pedestrians	3 incidents	6%
Bicyclists	13 incidents	29%

The primary common factor in both injury and property collisions was determined to be unsafe speed, which is implicated in 15 injury collisions and seven property damage collisions. Other primary factors include failure to stop at a red signal (five injury collisions), unsafe backing up (five property damage collisions), and drunk driving (four property damage collisions). It is noted that when considering the number of annual injury collisions on a monthly basis, the highest number occurs in June (eight injury collisions); school close for the summer starting in mid- to late-June. The next highest frequency is in March (five injury collisions), with the remainder of the months showing four or less injury collisions.

The Yearly Traffic Report 2003 does not provide any statewide or national average comparisons. Therefore it is not known if the number of traffic accidents in 2003 in Larkspur are unusually high or within the range that would be anticipated in a community of this size, location, and daily traffic volumes and with this many miles of paved roadway. The report does provide a comparison of collision data between Larkspur and Corte Madera. The numbers are very similar. In 2003 Larkspur reported a total of 88 collisions, whereas Corte Madera reported 87. Injury collisions numbered 45 in Larkspur and 36 in Corte Madera. Finally, there were 13 reported incidents of bicyclists involved in injury collisions in Larkspur and nine reported in Corte Madera in 2003. Other categories, including city street collisions, private property collisions, and hit and run incidents, were very similar.

According to California Highway Patrol's Statewide Integrated Traffic Records System (SWITRS) annual report for 2000, the latest year for which data is available, the rate of collision in Larkspur is not considered unusually higher than other cities in Marin County on a per capita, as shown below.

Belvedere	2,125 residents	5 incidents	2.35 incidents per resident
Corte Madera	9,100 residents	74 incidents	8.13 incidents per resident
Fairfax	7,319 residents	16 incidents	2.19 incidents per resident
Larkspur	12,014 residents	66 incidents	5.49 incidents per resident
Mill Valley	13,600 residents	57 incidents	4.19 incidents per resident
Novato	47,630 residents	209 incidents	4.39 incidents per resident
Ross	2,329 residents	8 incidents	3.43 incidents per resident
San Anselmo	12,378 residents	60 incidents	4.85 incidents per resident
San Rafael	56,063 residents	412 incidents	7.35 incidents per resident
Sausalito	7,330 residents	41 incidents	5.59 incidents per resident
Tiburon	8,666 residents	25 incidents	2.88 incidents per resident

J-11 In response to the signal warrant criteria being met at Doherty Drive/Larkspur Plaza, the cumulative intersection analysis performed for the DEIR indicates that a signal would be warranted at this intersection based on peak period through volumes and

proximity to a school. The City would implement the traffic improvements as the need arises. Also see response to Comment A-16.

J-12 The comment is correct in that none of the proposed traffic mitigation measures would reduce traffic volume. The purpose of these mitigation measures is to improve operating conditions to a point where they are in compliance with City-mandated significance thresholds (i.e., LOS D for signalized intersections and LOS C for unsignalized intersections).

If the required mitigation is not provided, it is very likely that travel times in the Doherty Drive corridor would increase. This would generally be true under conditions with and without the Specific Plan. With the successful implementation of the mitigation measures, traffic operations would improve and increases in traffic time may be minimized or reversed.

J-13 The 4% increase in ADT on Doherty Drive between 1999 and 2003 represents just over 100 vehicles per year. This increase is not large enough to attribute to any particular project or action, or a group of projects or actions, and the specific reason for the increase is unknown. The ADT results collected on Magnolia Avenue in 2003 showing a decrease of approximately 2,800 vehicles over four years correlates with what was occurring area-wide. A potential source for some of the traffic increase on Doherty Drive over the last four years may be tied to the schools. As stated in the comment letter from Larkspur School District (February 12, 2004) as included in this document, school enrollment has generally increased between 1998 and 2003.

J-14 Madera del Presidio is a housing development within the jurisdiction of Corte Madera; it was completed in 1997 and is located more than two miles from the Specific Plan area. The intersections studied in the CEQA document for the Madera del Presidio did not include the study intersections considered for the Specific Plan The traffic mitigation measures implemented as a part of the Madera del Presidio project included the installation of a traffic signal at the intersection of Paradise and Harbor Drives in Corte Madera and synchronization of signals at the Paradise Drive/San Clemente Drive and Paradise Drive/El Camino Drive intersections in Corte Madera. Although relevance to the Specific Plan and the DEIR is not explained in the comment, it is assumed that the commenter is concerned that traffic from that development may exacerbate LOS conditions, and that impacts may not have been adequately mitigated by Corte Madera. It is noted that Madera del Presidio is located east of SR 101, whereas the Specific Plan area is to the west of SR 101. Traffic from these two developments would generally utilize different freeway intersections that are located approximately one mile apart. Given the distance between the two developments and their locations relative to SR 101, the proposed Specific Plan would have minimal effect on the mitigation measures for the Madera del Presidio development.

J-15 The removal of on-street parking as a result of the construction of the proposed project or as a result of proposed mitigation is addressed in the DEIR (see Impact 4.7-6) and is

required to be replaced by projects in the Specific Plan area in accordance with the parking standards in the Specific Plan.

J-16 The comment is correct that the Specific Plan would allow for an integrated system of pedestrian and bicycle routes, including one on Doherty Drive as shown in Figure 5-2 of the Specific Plan. The recommended bicycle route would be nine and one-half feet wide, enough for safe use by both bicyclists and pedestrians. However, the design of the combined pedestrian/bicycle route shown in Figure 5-2 is not a Specific Plan standard, and a pedestrian/bicycle route could be developed with separated pathways for bicycles and pedestrians. The District's request is noted.

J-17 The comment does not pertain to the adequacy of the DEIR, and no further response is necessary. However, it is noted that while a detailed plan for the intersection with regard to bikeway alignment (e.g., Class I bikeway and its connections to the Class 2 bikeway at the Redwood High School driveway and Riviera Circle/Doherty Drive intersection) has not been developed, the width of the roadway right-of-way and the lack of physical impediments (e.g., steep slopes, proximity of buildings at the edge of the right-of-way) indicate that it would be feasible to reconstruct the intersection to include north/south and east/west crosswalks that would connect the respective bikeways. The City will consider this comment in deliberations on the merits of the Specific Plan.

J-18 The Specific Plan does not include a bikeway on Doherty Drive west of the intersection of Larkspur Plaza Drive, as shown in Figure 5-1 and Figure 7-19 in the Specific Plan. Bicycle traffic would instead travel south along an internal roadway to connect with the bikeway along Magnolia Avenue at the intersection of Magnolia Avenue and Ward Street. The alignment in the Specific Plan would avoid sending pedestrians and bicyclists, including students, to cross the entrance driveway of Albertsons market along Doherty Drive. Please see response to Comment J-10 for accident report.

J-19 Please refer to response to Comment H-1.

As stated on page 4.4-17 of the DEIR, storm drain facilities such as those required by Specific Plan Utilities Policy 9 would be designed for the 25-year flood event. As described in DEIR Impact 4.4-2, the flood height is controlled primarily by tidal water elevations rather than stormwater run off, and increases in impervious surface area from development in accordance with the Specific Plan would not significantly increase surface runoff. The City Engineer or the Director of Public Works would review and approve the drainage plans for any new project prior to the issuance of permits to confirm that design standards are met. The City appreciates the District's interest in the Specific Plan and supports the District's continued involvement in Specific Plan project review through the CEQA and project approval processes.

J-20 The District's request is noted. No further response is necessary.

J-21 The District's request is noted. As stated on page 4.9-9 of the DEIR, prior to the approval of all development projects within the Specific Plan area, a "will serve" letter from MMWD, stating that MMWD would be able to provide water to the proposed development, would be required by the City, and this would ensure that the development would not generate water demand beyond the water supply capacity of MMWD. Furthermore, project applicants would be required to construct water infrastructure that would meet the City's building standards regarding water pressure. Therefore, no water supply or pressure insufficiency would be expected.

J-22 The District's request is noted. As stated in the discussion of Impact 4.3-4, project-specific geotechnical investigations and engineering design, as well as any applicable environmental analysis, will be performed per General Plan requirements. The geotechnical investigation will evaluate soil conditions and provide recommendations on site improvements based in part on the types of development proposed. The associated environmental analysis would evaluate off-site environmental effects if there is evidence to suggest proposed development would have a potentially significant effect on off-site structures. Because site-specific development and soil information is not available at this time and because there is no evidence provided that shows grading and compaction would cause rerouting of onsite and offsite groundwater sources, this issue is not required to be further analyzed in the DEIR.

The City encourages further cooperation with and the involvement of the School District in future development projects in the Specific Plan area. In addition to the participation opportunities afforded by the CEQA and project approval processes, the City intends to maintain communication with the School District when development proposals for the Specific Plan area are submitted to the City.

J-23 Specific Plan Community Design Policy 48 (Open Space Corridor Design) calls for an open space corridor along Larkspur Creek that is designed to protect scenic values as well as water quality and natural habitat. Community Design Policy 65, Standard 65 (Creek Setback) requires that the buffer is at least 50 feet wide from the top of bank of Larkspur Creek on the north/south reach at the eastern edge of the Specific Plan area adjacent to the District's Corporation Yard. Mitigation Measure 4.5-2a, b of the DEIR requires that the buffer area be fenced and vegetated with native plants. This buffer would provide some visual separation between residential uses in Subarea 3 and the District's Corporation Yard and High School. Although the Corporation Yard and High School are not expected to generate excessive noise levels at the future residential areas, implementation of Mitigation Measure 4.8-1, through preparation of acoustical evaluations for new development, would ensure that noise levels meet City standards for outdoor residential uses.

J-24 Comment noted. Also see response to Comment J-6. The commenter incorrectly states that Policy 28 sets standards for allocating affordable housing. Housing allocation standards are introduced by Policy 32.

J-25 This is a comment on the Specific Plan, not an environmental issue associated with the DEIR. However, it is noted that the developer of the affordable housing will be required to enter an agreement with the City to do the following (Pendoley, pers. comm, 2004):

- The first time the housing becomes available for occupancy, a specified number of units would be reserved for people who work within five miles.
- The units would be held in reserve for a specified amount of time, such as four weeks.
- While the units were held in reserve, the developer would advertise the availability of units for qualified tenants or buyers, depending won whether the units were for rent or for sale.
- Prospective consumers' names would placed in a lottery if there were more applicants than units. Names chosen in the lottery would be screened for eligibility, and the qualifying applicants would be invited to rent or purchase.
- This process would be repeated as the reserved units became vacant or available for sale.
- This process is used throughout Marin County in various affordable housing projects. For-profit affordable housing developers are usually required to contract with the Marin Housing Authority to screen prospective occupants for eligibility.

J-26 The commenter incorrectly characterizes policies in the Specific Plan regarding the park planned for Subarea 3. It is not that the Specific Plan "permits" but does not "require" a park in Subarea 3. Policy 27 states "[a] public park shall be permitted consistent with the General Plan Land Use Map and Larkspur Municipal Code Chapter 17.13" (italicized emphasis added). The Specific Plan includes an amendment to the General Plan Land Use Map and amendments to the text of the General Plan that require a neighborhood park in Subarea 3. Municipal Code Chapter 17.13 requires that a park be provided when so designated on the General Plan Land Use Map. The commenter does correctly note that Specific Plan Policy 35 requires a park in Subarea 3.

Page 4.1-9 of the DEIR explains that the Larkspur Park Dedication Ordinance (Municipal Code, Chapter 17.13) requires that 5 acres of land be provided for each 1,000 persons residing in the city (Ord. 896 3 (part), 1998) and that such requirements be satisfied by parkland dedications or the payment of in-lieu fees. The formula for determining population is 2.45 persons per dwelling unit and 1.48 persons per multifamily dwelling (Section 17.13.040). Therefore, the 85 residential units proposed in Specific Plan Subarea 3 would generate the need for 0.9 acre of parkland:

58 single family and cottage units x 2.45 =	142.1 people
27 multifamily units x 1.48 =	39.96 people
142.1 + 39.96 =	182.06 people
182.06 people x 5 acres / 1,000 people =	0.9 acre

The proposed designation of a public park site in Subarea 3 would be consistent with this requirement. If project applicant(s) chooses to provide parkland in Subarea 3 for the multifamily residential units in Subareas 1 and 2, an additional 0.35 acres of parkland would be required:

47 multifamily units x 1.48 =	69.56 people
69.56 people x 5 acres / 1,000 people =	0.35 acre

However, project applicant(s) may choose to pay in-lieu fees for residences in Subareas 1 and 2 pursuant to the Park Dedication Ordinance. With the designation of land for public park and the existing requirement for in-lieu fees or parkland dedication, it is expected that impacts related to park use would be less than significant.

robert l. harrison
Transportation Planning and Project Management

K

Memorandum

To: Nancy Kaufman, Director
Larkspur City Planning Department
From: Bob Harrison
Date: January 29, 2004
Re: Review of CLASP Revised DEIR

FAX 927-5023
Page 1 of 2

I have reviewed the CLASP Revised DEIR dated November 14, 2003. My review concentrated on the traffic and parking analysis presented Volume 1 of the DEIR. I did not spend the time needed to carefully review the detailed calculations presented in the Technical Appendices of Volume 2 of the DEIR.

In general, the analysis is reasonably consistent with previous traffic and parking work that I or others have done in Larkspur. The DEIR traffic analysis is based on recent 2003 traffic count data, a time when traffic volumes were down from the peaks recorded in the 1999 - 2001 period. Of the nine intersections where data is comparable, the 2003 the intersection Level of Service (LOS) reported in the DEIR is the same for six intersections and one letter grade better for the remaining three intersections as compared to the analysis prepared for the Traffic Impact Fee (TIF) in 1999. As you know, an update of the TIF report is pending.

The following are specific comments where the technical procedures are different from previous work or where the DEIR analysis may require further work.

Trip Generation Rates

The DEIR uses trip generation rates that are not found in the research collected by the Institute of Transportation Engineers (ITE) in the report titled *Trip Generation*. The use of ITE trips rates is specified in the Circulation Assessment Permit (CAP) ordinance and by reference in the TIF ordinance.

The trip rates used in the DEIR are higher than the ITE rates for residential uses. In particular, the rates for large residential, over 4,000 sq.ft., single family are based on a study of seven homes in Corte Madera. These rates were found to be 50% higher than the average peak hour rates for single family residential found in the ITE report. The rates used in the DEIR for cottages and multi-family homes are also higher than the multi-family residential uses reported by the ITE. Because CEQA recommends a credible worst case analysis, use of the these higher rates may be justified in order to ensure an impact is not underestimated. K-1

However, the residential trip generation presented in the DEIR is not the same as would be expected if the normal Larkspur procedures were used. For example, the City would be hard pressed to justify this higher than standard trip generation when it came time to calculate the TIF for any specific project. K-1 Cont'd

Impact of Proposed Mitigation on Parking

The DEIR finds that the addition of project traffic would cause the intersection of Magnolia and Ward Streets would operate at LOS E and LOS F in the morning and afternoon peak hours respectively. (Impact 4.7-2). To mitigate this impact, the DEIR recommends making space for the installation of left turn lanes by removing four parking spaces on Magnolia Street and four spaces on Ward Street. The impact of the removal of parking at this high parking demand corner is not discussed in the DEIR. K-2

Mitigation Not Within Larkspur

The DEIR finds that two intersections not within the jurisdiction of the City of Larkspur would require mitigation. It is not clear from the DEIR how these mitigations would be implemented. In the past, the TIF has included funding for improvements outside the city limits. This concept was not endorsed in recent review of the update of TIF policies by the Planning Commission and Council. K-3

With the above concerns in mind, the DEIR appears to be a sound assessment of the traffic and parking impacts of the CLASP.

K-1 The trip rates used in the DEIR were adjusted to account for the large size (3,000+ square feet) of some of the proposed single-family units. In the case of the cottage home units, a trip rate that was 75% of the standard single-family home was adopted. This rate was also used to assess multi-family units rather than the lower ITE rate for Residential Condominium/Townhouse.

The rationale for revising the standard ITE rates was suggested by the City's Planning Commission, which felt that the large single-family, detached units would possibly generate trips at a higher rate than the standard ITE values. Wilbur Smith Associates was requested to collect trip generation data on large (3,500+ square foot homes) homes in Marin County. Data was collected for seven homes that met the size requirements located on a cul-de-sac in Corte Madera. The data indicated that these larger homes generated vehicle trips at a rate that was about 30% higher than the average ITE rate during both the A.M. and P.M. peak hours. Under the direction of the Planning Commission, the higher rate was used in the DEIR analysis for proposed single-family, detached units of 3,000 square feet or more.

There is no ITE standard trip rate for a cottage home units. The fact that these units would be built on smaller parcels than those of single-family units, and in some cases would be attached, indicated that it would not be appropriate to assign them ITE's single-family trip rate. The next available ITE residential rate that was applicable was that for Residential Condominium/Townhouse. This rate is roughly equivalent to half of the standard ITE single family detached unit rate. City staff and the Specific Plan consultants decided that the cottage home units would likely show trip generation characteristics that are higher than typical Townhouse use but less than typical single-family, detached units. For this reason, the adjusted cottage home rate was set at 75% of the single family detached rate. In order to ensure a conservative (worst case) trip generation analysis, this adjusted rate was applied to the Specific Plan's multi-family units.

The use of the higher Corte Madera trip generation data for the analysis of the Specific Plan's large-scale, single-family units needs to be considered with the following qualifications. The first is that the sample size of seven units is considered small, and that the duration of the survey at two days is considered short. The second consideration is that the Corte Madera homes were not located within reasonable walking distance to any retail and service locations. Many of the off-commute vehicle trips recorded at the Corte Madera site would not be necessary from the Specific Plan because of its close proximity to the downtown, as well as the planned pedestrian and bicycle facilities that would link the Specific Plan area to the downtown area and, thereby, reduce the need and the practicality of driving. The same perspective can be applied to the other residential uses

in the Specific Plan area. The location and design of Specific Plan developments would promote fewer off-peak vehicle trips than would be expected from a typical suburban development. In short, the adjusted traffic generation rate for single-family, detached units is conservatively high in order to ensure a worst-case scenario. The comment letter points out that developing and analyzing a worst-case analysis for the purposes of the DEIR is an acceptable practice. However, it will not serve the City of Larkspur procedures in terms of calculating the traffic impact fee (TIF) for development projects in the Specific Plan area. When calculating project TIF, the standard rates applied to previous projects in the city will be used.

K-2 The process for ensuring that the potential loss of on-street parking on East Ward Street and Magnolia Boulevard as a result of traffic impact mitigation measures would be factored into the ultimate project parking supply requirements is the plan check and project approval process. Depending on the timing of implementation of the traffic measure in relation to other Specific Plan projects that may provide additional parking, the parking spaces on Magnolia Avenue/Ward Street may be removed before they are replaced. While this may result in additional inconveniences, removal of eight parking spaces to improve intersection operations would not result in a significant environmental impact since any proposed development project would have to demonstrate sufficient parking. No change to the analysis or Mitigation Measure 4.7-3 is required.

As a condition of approval, project sponsors would be tasked with identifying and paying for any on-street public space that may be lost as a result of development impacts, including intersection improvement mitigation measures associated with the development projects.

K-3 The referenced intersections are Fifer Avenue/Tamal Vista Boulevard and Wornum Drive/Tamal Vista Boulevard. It is noted that the Specific Plan on its own would not cause either intersection to fail. This situation occurs under cumulative conditions with or without traffic from the Specific Plan area. The Specific Plan would add traffic volume at both of these intersections and, therefore, would contribute to the worsening of unacceptable operations. Whether or not mitigation measures would be implemented at these intersections will be decided by Corte Madera. It is noted that the recommended mitigation measure (Mitigation Measure 4.7-11) has been implemented at the Wornum/Tamal Vista intersection. Fair share contribution to the mitigation cost would have to be coordinated between the City of Larkspur, City of Corte Madera and the project sponsor(s). The City currently does not have a formal agreement with Corte Madera to share or require funding for traffic improvements that are outside the respective jurisdictions of each. However, the two cities are open to the establishment of such an agreement (Pendoley 2004). In any case, both cities are required to improve their roadways when needed in order to maintain acceptable operations in accordance with the established standards. For this reason, it is expected that mitigation measures will be implemented.

L

Larkspur Planning Commission
Mr. Robert Pendoley
City of Larkspur
400 Magnolia Ave.,
Larkspur, CA 94939

February 2, 2004

Subject: Comments on CLASP draft EIR.

Dear Planning Commission members and Mr. Pendoley:

Please consider the following comments reagrding the current draft Environmental Inpact Report (DEIR) for the CLASP project.

1. P. 4.2-5. The DEIR's conclusion that 132 units, adding 264 residents, is not a significant population increase appears unjustified. First, an assumption of only two persons per household in family-sized housing seems unduly low, especially for an analysis intended to assess maximum impact.

   A more fundamental flaw, however, is that this conclusion is based on measuring the increase in terms of the entire population of Larkspur, much of which is located nowhere near the project site. The cited definition of "significant," however, is inducement of population growth "in an area." (P. 4.2-5) This definition doesn't require comparison with the entire city (including lands across the freeway). By contrast, if the increase is guaged in terms of the immediate area, it is surely significant. The fallacy of using the entire city population as the standard for measuring significance is evident in light of the reference on p. 4.2-6 to another standard, where it is concluded that the project would not induce significant growth "in the immediate vacinity." Thus at one point, the DEIR looks to the entire city; at another, only to the immediate area.Using the "immediate vacinity" as the point of reference is certainly more reasonable. Unfortunately, the conclusion that significant growth would not be induced in the immediate area seems self-evidently inaccurate, especially as the report repeatedly acknowledges that the immediate area is almost all built-out already. The added population should be considered significant in terms of the area where the project is located, and thus the need for mitigation should be addressed. L-1

2. P. 4.3-15. The conclusion that more traffic wouldn't increase settlement because heavy loads are "transient" seems debateable at best, if transport of heavy loads occurs repeatedly. L-2

DEIR Comments
P.2.

3. P.4.5-18. The description of significant trees does not include the sizeable redwoods on the Niven site's northwest corner (bordering Albertsons parking lot). L-3

4. P. 4.7-3. The dates of the May 2002 and 2003 traffic counts should be disclosed, to confirm that they were not during holiday periods. L-4

5. P. 4.7-6. The claimed 20% decrease in Magnolia traffic appears implausible. Marin was not as affected by the economic downturn as other areas; for instance, housing prices continued to escalate. The police chief's 2002 traffic report referred generally to a "dramatic" increase in "congestion," among other traffic-collision factors. Public observation and experience probably doesn't confirm a 20% decrease—certainly, mine does not. L-5

6. P. 4.7-17. Weekend use of the city parking lot appears understated. My own longterm observation is that midday occupancy is closer to 80-90% than 68%. L-6

7. P. 4.7-33. The reasonableness of the Plan's assumption that 1 space per multifamily unit, and 1.2 spaces per cottage unit, is sufficient should be evaluated. At a time of 1-car per person couples, these parking assumptions appear too low. If the Plan's parking provisions are not reasistic and adequate, the result will be insufficient onsite parking, and corresponding increased parking problems nearby. In particular, the liklihood that 19 spaces will suffice for the 19 units on Subareas 1 and 2 is very low, but not addressed in the DEIR. L-7

8. P.4.7-44, 45. The proposed mitigation appears unrealistic, because its implementation depends on contingencies and expenditures beyond the City's control, involving wishful thinking about "coordination" with Corte Madera. Realistic mitigations should not depend on events outside Larkspur's control, such as significant road changes in another jurisdiction. L-8

9. P.4.9-9. (Impact 4.9-5). The conclusion that water impact would not be significant seems unsupported. A maximum need of 41.2 afa is identified. While the text states that over 21 afa are reserved for Subarea 3, it does not specifically state that a total of 41.1 is available for all three subareas; it merely asserts generally that "additional water" is available for Subareas 1 and 2. The summary, however, states that only 3.2 have been reserved. This, of course, falls short of the 41.2 afa needed. Moreover, on p. 4.9-2, 41.2 afa is termed the "minimum" required, not the maximum. L-9

10. P.4.9-9,10. The conclusion that wastewater treatment impact will be less than significant seems unsupported by the analysis, which states that both L-10

sanitary districts will require additional consultations and determinations at the time developments are actually proposed, and Ross Valley Sanitary Agency will require "conveyance" upgrades necessary to serve the project. Moreover, p. 5-2 states that the wastewater pumping station near Hall School will have to be upgraded to serve the development. Thus, this impact should be considered at least potentially significant. L-10

11. P.4.10-9 (Impact 4.10-3). The analysis appears incomplete, because it omits to discuss and evaluate the visual impact of the large, dense multifamily housing project permitted by the plan. L-11

12. P.4.10-10,11. The analysis is insufficient because it does not acknowledge the visual impact of large new 36-foot buildings—the "canyon effect" noted by Commission and citizen commentators. The single reference on p. 4.10-11 is vague and conclusionary, assuming without demonstrating that existing CLASP policies will obviate any impact. It fails to recognize that the plan itself permits such height, and that other safeguards are general, flexible, and may not provide definitive safeguards. The visual impact should be considered at least potentially significant. L-12

13. P.5-1. The assertion that "the retail and community uses that are permitted to be developed are neighborhood-serving and will tend to employ persons from the surrounding community" seems unsubstantiated and speculative, at best. L-13

14. P.6-9. "Population and Housing." The (lower) population impact of the Low Density alternative is not adequately acknowledged, because, as noted above , population increase is guaged in terms of the total city population, rather than the population of the surrounding area, Obviously, an added population of less than half allowed by the Plan would have a significantly lesser impact. L-14

15. P.6-11,12 and Table 63. The text does not explain why the Lucky/Doherty intersection would be worse under the Low Density alternative than under the proposed plan. L-15

16. P. 6-13. The "Visual Quality and Aesthetics" section seems inadequate because it fails to recognize the lessened impact of not having large, high-density structures on the site. Simply stating that visual quality will be consistent with the surrounding development ignores the wide range in the surrounding development, and thus the differences in visual character between, eg, Meadowood as compared to Larkspur Isle. L-16

17. Pp. 6-15. The "Population and Housing" portion of the "Residential Focus" section understates the impact of the increased population (390) by again comparing it to the entire city population, rather than that of the relevent, already-congested, built-out, surrounding area. In general, a conclusion that finds no significant difference in impact regardless of whether the added population is 56 (no project), 114 (low density), 264 (proposed plan) or 390 is not credible. The comparative increases in congestion and crowding in the immediate area are likewise ignored. L-17

18. Pp. 6-17, 18; Table 6-4. The analysis does not appear to explain why it assumes Improvements at Doherty/Piper for the Residential Focus alternative but not for the proposed project. Also unclear is why Doherty/Riveria is expected to be better under the Residential Focus alternative than the proposed project. L-18

19. P. 6-19. The analysis again fails to adequately acknowledge the impact of a number of large, high-density buildings in close proximity to each other. L-19

20. P. 6-20. The statement that land use and planning impacts are less than significant because in all cases the uses are "compatible with adjacent uses" is not very helpful, because it fails to recognize the variety of existing uses, their differing proximity to the site, and the resulting differences in impact depending on which uses predominate on the site, and the corresponding differences in mass and scale of the structures housing those uses. L-20

21. P. 6-20. The statement that population and housing impacts are similar under each alternative, and not significant, ignores the significant differences between the three alternatives, and their correspondingly different impacts on the immediate area, as explained above (comment #17). Thus, it is not credible. L-21

22. P. 6-23. The "Visual Quality and Aesthetics" analysis again fails to distinguish between the quite different visual impacts of high versus low density structures on the site. L-22

Thank you for considering these comments. Your hard work in clarifing and analyzing this massive, technical DEIR is much appreciated.

Very truly yours,

James W. Holmes
Madrone Ave.
Larkspur, CA 94939

L-1 The DEIR analysis of population growth (see Impact 4.2-1) assumed an average of 2 persons per household based upon the California Department of Finance statistic that, on average, there were 1.93 persons per household in the City of Larkspur in January of 2001 (see DEIR Page 4.2-1, Section 4.2.1, Existing Setting, and response to Comment B-10 in this document).

The population increase of approximately 264 residents, which would be generated by a maximum number of 132 housing units allowed by the Specific Plan, was found to result in a less-than-significant impact based a comparison with city-wide population. It is standard practice to compare a project's impacts against the lead agency's jurisdiction to identify an overall percent change in population. As identified in Impact 4.2-1, the population growth in the Specific Plan area would represent approximately 2.2% of the City of Larkspur's current population, and the General Plan anticipated the development of housing in Subarea 3. Thus, the Specific Plan does not propose a substantial increase beyond the current General Plan. Furthermore, the Specific Plan area is an infill site, currently served by public utilities and services and partially occupied by and surrounded by urban (suburban) uses; the project site is not in an area that is not already planned for future development. For these reasons, the Specific Plan does not induce substantial growth in the area or in the city. The residential development could also meet up to 43.5% of the City's regional housing need allocation between 1999 and 2006 as identified by ABAG. Therefore, the analysis of population growth in comparison to the City of Larkspur population is reasonable and the impact conclusion of insignificance is appropriate.

L-2 As stated in the discussion for Impact 4.3-4, a review of geotechnical information by Miller Pacific Engineering Group concluded that while the project will contribute additional trips of heavily loaded vehicles, these transient loads do not exceed the load-bearing characteristics of Bay Mud and, thus, will not induce settlement. The comment offers no data or analysis to the contrary.

L-3 Trees within the Specific Plan area are generally described on DEIR Page 4.5-2. Although the redwoods at the northwest corner of Subarea 3 are not specifically mentioned, the description states that Subarea 3 supports scattered patches of native trees and shrubs and specifically calls out redwoods (*Sequoia sempervirens*) among other native trees present in the Specific Plan area.

If the redwoods at the northwest corner of Subarea 3 meet the definition of heritage trees or trees identified in the Specific Plan Community Design Standard 68 (Trees to be Retained), as stated under Impact 4.5-1, Loss of Habitat for Common Plant and Wildlife Species, on DEIR Page 4.5-16, they would be protected and would not be

removed. As described on DEIR Page 4.5-14, trees that meet the City's definition of mature or "heritage" trees (under Chapter 12.16 of the Municipal Code) meet either one of the following criteria:

- A live tree or grove of trees of historical significance specifically designated by official action of the City Council; or
- Any live tree that has a trunk with a circumference of 50 inches or more, measured at 24 inches above the natural grade.

The trees to be retained per the Specific Plan, Community Design Standard 68 are the following:

- The Oregon White Oak (*Quercus garryana*) located immediately southeast of the warming house.
- The Valley/White Oak (*Quercus lobata*) located approximately 80 feet south of the warming house.
- The small grove of redwood trees (*Sequoia sempervirens*) between the warming hut and East Ward Street.
- The Valley/White Oak located in the southwest corner of the Niven property adjoining East Ward Street.

As determined in Impact 4.5-1 of the Revised Draft EIR, the Specific Plan would not substantially reduce the population of any plant or wildlife species and this impact is considered less than significant.

L-4 See response to Comment I-3.The May 2003 ADT counts for Doherty Drive and Magnolia Avenue shown in the DEIR were taken over a period of seven consecutive days, under fair weather conditions, with schools in session and when no special events were planned. Likewise, the intersection peak period turn movement counts were taken over five weekdays in March 2003, under conditions that would be characterized as typical.

L-5 As noted in the comment, daily traffic recorded on Magnolia Avenue decreased between 1999 and 2003. However, DEIR Table 4.7-1 included two numeric errors. While the ADT volumes are correct, the percent change row should read 17.8% rather than 22% and 17.2% rather than 21%. The percent change shown for Doherty Drive is correct at 4% for weekday and -9% for Saturday. The FEIR incorporates these changes in Chapter 3 and as shown below.

When the May 2003 counts were completed, Wilbur Smith Associates contacted the technicians at Marks Traffic to discuss the noticeable drop in daily traffic compared to the 1999 counts. Both 1999 and 2003 data collection surveys were conducted by Marks

Traffic. On review, the field supervisor (Mietek Mleczko) found nothing that indicated a malfunction or tampering with the electronic counting equipment. The count data, recorded in 15 minute increments, showed a consistency hour to hour across the five weekdays. There were no minus spikes in the data which would indicate potential equipment failure nor were there any plus spikes that would indicate tampering. It was the field supervisor's contention that the counts provided an accurate accounting of daily traffic over the seven day period at this location. The ADT traffic counts are provided in an appendix to this document.

The public perception of traffic is most often shaped by the peak periods of daily congestion. It is during this time that mobility and circulation in the downtown area are most affected. Intersection traffic count data for the morning and evening peak periods from 1999 and from 2003 indicate that traffic conditions have not changed significantly during these peak time periods. There are a few intersections that show lower traffic volumes in 2003, but for most intersections in the study area, traffic volumes have stayed at generally the same level or increased slightly. . It is noted that ADT is not the key measure of traffic congestion on a roadway or an intersection. The cited 2002 police traffic report that provides information on collisions does not provide statistics on traffic levels. Traffic collisions can occur based on multitude of factors. It is noted that traffic congestion and heavy traffic flows are but two of many factors that contribute to increased traffic collisions.

Page 4.7-6, First Full Paragraph and Table 4.7-1 are revised as follows:

Saturday ADT volumes were lower than weekday volumes. Magnolia Avenue Downtown had 17% fewer vehicles on Saturday while Doherty Drive had almost 30% lower volumes. Overall, ADT volumes have decreased by just over 2017% on Magnolia Avenue compared to 1999 ADT data. ADT volumes on Doherty Drive have shown a modest 4% increase during weekdays and a decrease of 9% on weekends compared to 1999 ADT volumes. The overall decrease in daily vehicle traffic is most likely attributed to overall economic conditions, which have slowed over the past few years.

Table 4.7-1
Summary and Comparison of Average Daily Traffic Volumes

Location	Weekday ADT (vehicles)	Saturday ADT (vehicles)
1999—Magnolia Downtown	15,680	12,940
2003—Magnolia Downtown	12,880	10,716
Percent Change	~~-22~~17.8	~~-21~~17.2
1999—Doherty Drive	11,410	8,990
2003—Doherty Drive	11,860	8,240
Percent Change	4	-9

Source: Marks Traffic Data Service 2003

L-6 Saturday evening parking occupancy was at 100% full. The Saturday midday parking survey covered three hours (11:00 AM to 2:00 PM). During portions of the three hour period it is likely that parking occupancy exceeded the 80 and 90% level; however, the average rate of occupancy recorded for this time period was just below 70%. The commenter presents no additional data, nor evidence that the parking survey is invalid.

L-7 The DEIR evaluates parking impacts in relation to City standards. Based on current uses in the area and similar uses throughout the city; these standards appear to be appropriate and reasonable. Also see response to Comment J-5.

The proposed rate of one space per multi-family unit represents a generally recognized standard. The ITE Parking Generation Manual provides an average rate of 1.11 parking spaces per residential condominium unit.

L-8 See response to Comment K-3.

CEQA requires that impacts be disclosed and that mitigation measures be formulated and analyzed. The EIR finds that implementation of the Specific Plan would exacerbate traffic impacts at two poorly- functioning intersections in Corte Madera. . Therefore, following CEQA guidelines, mitigation has been proposed. The mitigation measure proposed for the intersection of Wornum Drive/Tamal Vista has already been implemented. Implementation of the mitigation measures, whatever the funding and construction mechanism, would be required when development proposals are submitted to the City for approval. For this reason, the DEIR has satisfied CEQA requirements.

L-9 Marin Municipal Water District (WWMD) has planned for long-term water supplies based on the buildout of the General Plans of the cities it serves. Based on personal communications with MMWD in 2003, water is currently reserved, additional water is available if necessary, and MMWD does not have any programs in effect to limit water supply to the Specific Plan area. In addition, to ensure that development would not generate a water demand beyond the water supply capacity of MMWD, a "will-serve" letter from MMWD, stating that MMWD would be able to provide water to the proposed development would be required by the City before the approval of any development project within the Specific Plan area. Therefore, the water needed to serve Specific Plan development has been included in MMWD's water planning efforts and no water supply insufficiency is expected.

L-10 Ross Valley Sanitary District No. 1 is currently upgrading the pump station that serves the Specific Plan area to improve wastewater conveyance. Further conveyance upgrades would be needed to serve new development projects in the Specific Plan area (Schulte, pers. comm., 2004). Therefore, as stated in Impact 4.9-6 of the Revised Draft EIR, when development plans are submitted for individual parcels within the Specific Plan area, the Sanitary District will review them and determine whether the existing conveyance system capacity constraints would limit its ability to provide sewer service.

In addition, the District would be required to complete environmental analysis for wastewater conveyance facilities when they identify which upgrades are necessary (Hogue, per. comm., 2004). It is noted that existing wastewater treatment capacity is expected to be adequate in serving the Specific Plan area (see Impact 4.9-6).

The construction impacts of Specific Plan development, including potential wastewater conveyance system upgrades, are analyzed at a programmatic level in the DEIR Sections 4.3 (Geology and Soils), 4.6 (Air Quality), 4.7 (Traffic and Circulation), and 4.8 (Noise), because specific locations of the new or upgraded pipelines are not known at this time.. Impact 4.3-3 determines that erosion of soils during construction could affect Larkspur Creek. However, Mitigation Measure 4.3-3, which requires the preparation and implementation of stormwater pollution prevention plans by all developers in the Specific Plan area, would reduce potential soil erosion impacts to a less-than-significant level. Impact 4.7-7 determines that development of future Specific Plan projects would potentially cause traffic interruption and unsafe roadway conditions. However, Mitigation Measure 4.7-7 requires construction contractors to prepare a detailed construction management plan prior to beginning work within the Specific Plan area. The plan shall provide information related to duration of the construction, size of work force, average daily truck deliveries, proposed truck routes to and from the construction site, and hours/days of operation and would reduce the construction traffic impact to a less-than-significant level. Impact 4.6-5 determines that dust generated by construction equipment and vehicles could be substantial. However, Mitigation Measure 4.6-5a, b, which requires the implementation of dust control measures during construction activities and emission controls for construction and grading equipment, would reduce the potential air quality impacts to a less-than-significant level. Impact 4.8-2 determines that increased noise during construction could be occasionally annoying. However, Mitigation Measure 4.8-2, which requires that the developer take measures to minimize noise intrusion during construction, would reduce noise impacts to a less-than-significant level. Consistent with CEQA Guidelines §15168(a), the City of Larkspur will require the implementation of these mitigation measures, in conjunction with project-specific analyses and mitigation measures, to ensure that project construction impacts are avoided or reduced to a less-than-significant level.

L-11 The Specific Plan allows for the development of multifamily housing units consisting of attached apartment and/or town house units at densities of up to 25 units per acre. Although design-level details for future housing development are largely unknown at this time, the DEIR analysis determined that, in general, because Specific Plan residential development would replace dilapidated abandoned greenhouses and would be subject to policies and standards that address size, architecture, appearance, and other elements, the visual quality of the downtown area would be protected and no degradation would occur. Such policies and standards include the following: Community Design Policy 1., Traditional Design Approach; Community Design Policy 2., Integration; Community Design Policy 7., Building Design; Community Design

Policy 16., Downtown Storefront Pattern; Community Design Policy 19., Height and Scale; Community Design Policy 20., Height Allowances; Community Design Policy 22., Pedestrian-Oriented Frontage; Community Design Policy 25., Architectural Standards for Historic Context; Community Design Policy 27., Driveway Locations; Community Design Policy 45., Neighborhood Design; and Community Design Policy 46., Residential Architecture.

The City will use this program EIR analysis in conjunction with project-specific analyses of development projects proposed for the Specific Plan area in its evaluation and decision-making process. If a multifamily housing project is proposed, the City will review it for consistency with the Specific Plan policies and standards, determine the content and degree of further site-specific environmental review, including visual/aesthetic analysis, prepare the appropriate environmental document, if required, and require appropriate changes to the proposed development projects and/or the implementation of mitigation measures. For this reason, the visual analysis of multi-family housing units in the DEIR is sufficient.

L-12 The discussion of the potential degradation of visual character, Impact 4.10-3, specifically identifies relevant policies, including two regarding building heights:

- Specific Plan Community Design Policy 20 (Height Allowances) A height allowance of 26 feet would be permitted; in certain cases, the Planning Commission may allow additional height up to 36 feet.

- Community Plan Policy 19 (Height and Scale) Building heights along Magnolia Avenue would be similar to those along the existing Downtown frontage of Magnolia Avenue; the modulation and articulation of buildings to replicate the scale and variation of existing Downtown facades would be promoted.

The DEIR analyzes the potential degradation of visual character based upon the policies established by the Specific Plan, such as these two, because the Specific Plan provides only a framework for general future development; it does not propose the development of any individual project. Also see response to Comment L-11 for other Specific Plan policies designed to preserve visual resources and maintain the visual character of the downtown area. Impact 4.10-3 determines that because all Specific Plan development would be subject to the substantive Specific Plan policies and standards that address building design, design elements, storefront downtown standards, building location and height, pedestrian-oriented frontage, neighborhood design, and other elements, the visual quality of the downtown area would be protected and no degradation would occur. The City will use this program-level EIR analysis in conjunction with future project-specific analyses of projects proposed for the Specific Plan area in its evaluation and decision-making process. If a 36-foot tall building is proposed, the City will review it for consistency with applicable Specific Plan policies and standards and will determine the content and degree of further site-specific environmental review, including visual/aesthetic analysis, and will prepare the

appropriate environmental document. For this reason, the visual analysis in the DEIR is sufficient.

L-13 In accordance with Specific Plan Land Use Policies 7, 9, 20, and 22, the commercial uses in the Specific Plan area would need to comply with the Storefront Downtown and Transitional Downtown zones, as described in Chapters 18.41 and 18.45 of the City of Larkspur Municipal Code. The permitted land uses in these zones are not generally considered to constitute unique regional employment centers, such as a business campus, an airport, or a large-scale regional shopping center. Most of these land uses are common in the region. For example, most individuals would not have to relocate to Larkspur for the sole purpose of working at a real estate office or a bank in the Specific Plan area, because the individual would have the choice of finding employment in the numerous banks and real estate offices located throughout the region. Thus, the percentage of employees who relocate to the city for the purpose work in the Specific Plan area is expected to be small. As such, most employees would be from the region and local community rather than elsewhere in the Bay Area.

L-14 Please refer to the response to Comments B-10 and L-1 regarding the use of city-wide population rather than the population of the immediate area for comparisons with future population growth in the Specific Plan area.

L-15 DEIR Table 6-3 includes numeric errors that make it appear as though the delay and the associated level of service for the intersection of Lucky Drive/Doherty Drive is worse under the Low Density Alternative than under the Proposed Project. The corrected table shows that the delay under the Low Density Alternative is lower, because the Low Density Alternative would generate less traffic volume. This same type of numeric error associated with this intersection is also in Tables 6-2, 6-4 and 4.7-13 (see response to Comment L-18 for the tables). These errors do not affect the traffic impact analysis, as the levels of service for this intersection are acceptable both before and after the correction. The FEIR incorporates corrections in Chapter 3.

Page 4.7-39, Table 4.7-13, is revised as follows:

Table 4.7-13
Existing Plus Cumulative (No Specific Plan) and Existing Plus Cumulative Plus Specific Plan Conditions Intersection Level of Service

Intersections	Existing Plus Cumulative (No Specific Plan)				Existing Plus Cumulative Plus Specific Plan			
	a.m. Peak Hour		p.m. Peak Hour		a.m. Peak Hour		p.m. Peak Hour	
	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Signalized Intersection (LOS A-D are acceptable)								
1. Bon Air Road/Magnolia Avenue	B	9.3	B	11.4	B	9.3	B	11.6
2. Doherty Drive/Magnolia Avenue	B	12.1	B	14.4	B	12.7	C	18.0
3. East Ward Street/Magnolia Avenue	**F**	**	**F**	**	**F**	**	**F**	**
10. Fifer Avenue /Tamal Vista Boulevard	C	23.5	**E**	**57.1**	B	6.4	B	10.3
11. Wornum Drive /Tamal Vista Boulevard***	C	25.1	**F**	**70.5**	D	26.3	**F**	**81.2**
12. Wornum Drive/Redwood Highway	B	8.4	B	12.6	B	8.5	B	12.8
13. 101 NB On-Ramp/Industrial	B	5.6	C	17.8	B	5.6	C	18.1
Unsignalized Intersection (LOS A-C are acceptable)								
4. King Street/Magnolia Avenue	**E**	**30.9**	**F**	**	**E**	**34.5**	**F**	**
5. Doherty Drive/Larkspur Plaza*	**F**	**52.2**	**E**	**43.2**	B*	6.9	B*	9.1
6. Doherty Drive/Piper Park****	**D**	**24.1**	C	19.6	**D**	**25.8**	**D**	**21.8**
7. Doherty Drive/Riviera Circle	**E**	**36.6**	**E**	**41.1**	**E**	**40.0**	**E**	**44.9**
8. Lucky Drive/Doherty Drive	C	12.8	~~B~~C	~~9.2~~ 10.7	C	~~14.6~~ 15.1	~~B~~C	~~9.5~~ 13.6
9. Lucky Drive/Fifer Avenue	C	12.1	C	14.1	C	12.2	C	15.5

Notes: Delay is in average seconds per vehicle
LOS = Level of Service
* Assumes intersection would be signalized with implementation of Specific Plan.
** Exceeds 120 seconds delay
*** The improvement ot the intersection of Wornum Drive/Tamal Vista Boulevard has been under construction and may be completed by the end of 2003.
**** Assumes no signalization improvements under either scenario.
Bold = unacceptable operations
NA = Not available
Source: Wilbur Smith Associates (May 2003)

Page 6-6, Table 6-2 is revised as follows:

Table 6-2
Intersection Levels of Service: Proposed Project Versus No Project Alternative

Intersections	Existing Plus Cumulative Plus Proposed Project				Existing Plus Cumulative Plus No Project Alternative			
	A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
1. Bon Air Road/Magnolia Avenue	B	9.3	B	11.6	B	9.3	B	11.4
2. Doherty Drive/Magnolia Avenue	B	12.7	C	18.0	B	12.1	B	14.4
3. East Ward Street/Magnolia Avenue	**F**	**	**F**	**	**F**	**	**F**	**
4. King Street/Magnolia Avenue	**E**	**34.5**	**F**	**	**E**	**30.9**	**F**	**
5. Doherty Drive/Larkspur Plaza	B	6.9	B	9.1	**F**	**52.2**	**E**	**43.2**
6. Doherty Drive/Piper Park***	**D**	**25.8**	**D**	**21.8**	**D**	**24.1**	C	19.6
7. Doherty Drive/Riviera Circle	**E**	**40.0**	**E**	**44.9**	**E**	**36.6**	**E**	**41.1**
8. Lucky Drive/Doherty Drive	C	~~14.6~~ 15.1	~~B~~C	~~9.5~~ 13.5	C	12.8	~~B~~C	~~9.2~~ 10.7
9. Lucky Drive/Fifer Avenue	C	12.2	C	15.5	C	12.1	C	14.1
10. Fifer Avenue/Tamal Vista Boulevard	C	24.4	**F**	**74.4**	C	23.5	**E**	**57.1**
11. Wornum Drive/Tamal Vista Boulevard****	D	26.3	**F**	**81.2**	C	25.1	**F**	**70.5**
12. Wornum Drive/Redwood Highway	B	8.5	B	12.8	B	8.4	B	12.6
13. 101 Northbound On-ramp/Industrial	B	5.6	C	18.1	B	5.6	C	17.8

Notes:
Delay is in average seconds per vehicle
LOS = Level of Service
** = exceeds 120 seconds delay
*** = Assumes no ~~improvement~~ change (e.g., addition of driveway from Specific Plan area) to Doherty Drive/Piper Park intersection would be implemented under ~~both the Proposed Project Alternative and~~ the No Project Alternative.
**** = The improvement to the intersection of Wornum Drive/Tamal Vista Boulevard has been under construction and may be completed by the end of 2003.
Bold = unacceptable operations

Page 6-12, Table 6-3 is revised as follows:

Table 6-3
Cumulative Intersection Levels of Service: Proposed Project Versus Low Density Alternative

	Existing Plus Cumulative Plus Proposed Project				Existing Plus Cumulative Plus Low Density Alternative			
	AM Peak Hour		PM Peak Hour Hour		AM Peak Hour		PM Peak Hour Hour	
Intersections	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
1. Bon Air Road/Magnolia Avenue	B	9.3	B	11.6	B	9.3	B	8.4
2. Doherty Drive/Magnolia Avenue	B	12.7	C	18.0	B	12.3	B	14.6
3. East Ward Street/Magnolia Avenue	**F**	**	**F**	**	**F**	**	**F**	**
4. King Street/Magnolia Avenue	**E**	**34.5**	**F**	**	**E**	**33.1**	**F**	**
5. Doherty Drive/Larkspur Plaza	B	6.9	B	9.1	B	5.3	B	8.1
6. Doherty Drive/Piper Park ~~(1)~~	**D**[1]	**25.8**	**D**[1]	**21.8**	C[1]	12.2	C[1]	17.3
7. Doherty Drive/Riviera Circle	**E**	**40.0**	**E**	**44.9**	**E**	**42.7**	**D**	**21.9**
8. Lucky Drive/Doherty Drive	C	~~14.6~~ 15.1	~~B~~C	~~9.5~~ 13.5	C	~~17.4~~ 13.7	C	~~10.0~~ 12.0
9. Lucky Drive/Fifer Avenue	C	12.2	C	15.5	C	0.5	C	1.0
10. Fifer Ave/Tamal Vista Boulevard	C	24.4	**F**	**74.4**	D	26.4	**E**	**55.2**
11. Wornum Drive/Tamal Vista Boulevard***	D	26.3	**F**	**81.2**	D	25.4	**F**	**
12. Wornum Drive/Redwood Highway	B	8.5	B	12.8	B	9.2	C	18.0
13. 101 NB On Ramp/Industrial	B	5.6	C	18.1	B	5.5	C	22.2

Notes:
Delay is in average seconds per vehicle
LOS = Level of Service
** = Exceeds 120 seconds delay
*** = The improvement to the intersection of Wornum Drive/Tamal Vista Boulevard has been under construction and may be completed by the end of 2003.
~~[1] Assumes Doherty Drive/Piper Park Improvement would be implemented for Low Density Alternative but not under Proposed Project.~~

Page 6-18, Table 6-4 is revised as follows:

Table 6-4
Cumulative Intersection Levels of Service: Proposed Project Versus Residential Focus Alternative

	Existing Plus Cumulative Plus Proposed Project				Existing Plus Cumulative Plus Residential Focus			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersections	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
1. Bon Air Road/Magnolia Avenue	B	9.3	B	11.6	B	9.6	B	8.5
2. Doherty Drive/Magnolia Avenue	B	12.7	C	18.0	B	12.6	C	16.1
3. East Ward Street/Magnolia Avenue	**F**	**	**F**	**	**F**	**	**F**	**
4. King Street/Magnolia Avenue	**E**	**34.5**	**F**	**	**E**	**35.3**	**F**	**
5. Doherty Drive/Larkspur Plaza	B	6.9	B	9.1	B	5.6	B	10.2
6. Doherty Drive/Piper Park[+]	**D[+]**	**25.8**	**D[+]**	**21.8**	C[+]	12.6	C[+]	18.4
7. Doherty Drive/Riviera Circle	**E**	**40.0**	**E**	**44.9**	**F**	**46.0**	**D**	**24.8**
8. Lucky Drive/Doherty Drive	C	~~14.6~~ 15.1	~~B~~C	~~9.5~~ 13.5	C	~~18.0~~ 14.5	C	~~10.4~~ 13.1
9. Lucky Drive/Fifer Avenue	C	12.2	C	15.5	C	0.5	C	1.0
10. Fifer Avenue/Tamal Vista Boulevard	C	24.4	**F**	**74.4**	D	26.9	**F**	**60.3**
11. Wornum Drive/Tamal Vista Boulevard	D	26.3	**F**	**81.2**	D	25.8	**F**	**
12. Wornum Drive/Redwood Hwy	B	8.5	B	12.8	B	9.2	C	18.0
13. 101 NB On Ramp/Industrial	B	5.6	C	18.1	B	5.5	C	22.6

Notes:
Delay is in average seconds per vehicle
LOS = Level of Service
** = Exceeds 120 seconds delay
~~[+] Assumes implementation of improvement of Doherty Drive/Piper Park intersection for Residential Focus Alternative but not for Proposed Project.~~

L-16 Please refer to the response to Comment B-10 regarding the difference in the visual impacts of the alternatives.

L-17 See response to Comment B-10.

L-18 DEIR Table 6-4 included a text error in the footnote regarding the intersection of Doherty Drive/Piper Park intersection (see response to Comment L-15 for the table). This correction to the footnote corrects the error in stating that improvements (e.g., reconfiguration of the intersection to allow for roadway in/from the Specific Plan area) would be made to the Residential Focus alternative but not for the Proposed Project. In fact, this improvement would be needed for all three development alternatives in order to construct the roadway in/from the Specific Plan area. This change in the footnote does not affect the level of service calculated for the proposed project and each of the alternatives and the associated impact analysis. The FEIR incorporates these corrections in Chapter 3. With regard to the intersection of Doherty Drive/Riviera Circle, the p.m. peak-hour LOS is worse under the Proposed Project because more traffic volume would be created under the Proposed Project and the traffic

configuration assumed in the traffic modeling would divert more trips toward this intersection than under the Residential Focus.

L-19 Please refer to the response to Comment B-10 regarding the difference in the visual impacts of the alternatives.

L-20 The DEIR at Page 6-20 states that "the uses anticipated would be compatible with existing adjacent uses" because under all alternatives, development would have to adhere to Specific Plan policies that are designed to minimize land use incompatibilities. For example, Community Design Policy 25 states that "design of new buildings and remodeling of existing structures shall...be compatible with the historic materials, features, size, scale, and proportions of the older structures." Also see response to Comment L-11 for other Specific Plan policies designed to ensure land use compatibility and maintain the visual character of the downtown area.

L-21 Compared to the existing residential population of the city, the percentage of population increase under the three development-oriented alternatives ranges from 3.2% to 0.9%. Because none of these percentage increases are considered substantial on a city-wide level and this growth (and development of the Specific Plan area) is already considered in the General Plan, the impact is considered similar for all three alternatives.

L-22 The DEIR at Page 6-23 states that visual character under the Proposed Project, Low Density Alternative, and Residential Focus Alternative would be similar because future development and the associated change in visual character under all three alternatives must comply with the policies and standards (i.e., limits on building height, landscaped buffer along commercial development, building design, zoning standards, ground-level façades, pedestrian-scale details, materials) in the Specific Plan and will be reviewed for conformity through the City's Design Review process. The intent of the policies and standards is to control the overall appearance of the area and promote traditional downtown and neighborhood design. Also see response to Comment L-11 for other Specific Plan policies designed to preserve visual resources and maintain the visual character of the downtown area. While the Specific Plan area may ultimately be developed at different densities under the alternatives, the difference in the resulting visual impacts (e.g., potential interference with scenic vista, potential damage to scenic resources, and potential degradation of visual character) would not be substantial given the policies and standards. For example, the view of Mt. Tamalpais from Magnolia Avenue would not be blocked by development under the alternatives, and implementation of building height limits under all alternatives would result in similar level of visual obstruction of Mt. Tamalpais. Another example is that the historic railroad structures and their associated aesthetic value would be preserved under all alternatives. Another way in which the DEIR acknowledges the difference in densities is revealed in the DEIR passage on Page 6-23 that states that light and glare impact would be most substantial under the Residential Focus Alternative. However, as with other visual impacts, the light and glare impact would be less than significant for all alternatives. No further comparative analysis of visual effects is necessary.

M

Larkspur Library Board - public comment at Planning Commission meeting for Feb. 3, 2004

Marianne Rafter, a member of the Larkspur Library Board and of the 2050 Committee representing the Larkspur Library Board

In reading the summary of the revised draft EIR, the Library Board members noticed that there is no specific mention of having a new library building in any of the sub-areas. In the various drafts of the CLASP, a new library was mentioned as a possibility. M-1

The Larkspur Library Board would like to ensure that the wording in the draft and final EIR provides for the possibility of adding a library in one of the designated sub-areas.

There is also the statement in the draft EIR "Building coverage would not exceed 40% of the site area." (p. 3-3 of Draft EIR summary) The Library Board would like to be sure that that statement does not affect the possibility of a library in Sub-area 1, or any other sub-area. M-2

M-1 Please refer to response to Comment B-1.

M-2 The statement in Specific Plan Land Use Policy 9 (Subarea 1 Development Standards) Standard 3 that "Coverage by buildings exclusive of the aforementioned railroad buildings, shall not exceed 40% of the site area." does not preclude the potential for a public library within Subarea 1 as long as the the 40% coverage standard is not exceeded as a result of the library. Please also refer to response to Comment B-1.

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N

February 3, 2004

Robert Pendoley, Project Manager
Planning Department
City of Larkspur
400 Magnolia Avenue
Larkspur, CA 94939

Re: Comments on CLASP Revised Draft EIR

Dear Mr. Pendoley:

The Marin County Bicycle Coalition (MCBC) is writing to provide written comments on the Revised Draft Environmental Impact Report for the Central Larkspur Specific Plan, SCH #2001112092.

We are pleased to see that changes in the November, 2003 Planning Commission Draft of the Central Larkspur Specific plan, on which this Draft EIR is based, have addressed nearly all of the concerns we raised in our August 30, 2002 response to the first Draft EIR. N-1

Our only substantive complaint with the new Draft EIR is the analysis on pages 4.10-7 through 4.10-9 on the potential damage to scenic resources. In our opinion, permitting parking on the former railroad right-of-way would have a significant impact on view corridors and cyclist and pedestrian safety as well as degrading the environment surrounding the historic railroad buildings, station platform and right-of-way. A new policy prohibiting parking on the former railroad right-of-way would mitigate this impact.

We have two suggestions for clarifying language related to bikeways:

Page 3-3: The first sentence in the second paragraph under Subarea 1 should be amended as underlined to read "Doherty Park would remain in its current condition <u>except for bikeway improvements called for in Policy 20…</u>" N-2

Page 4.1-10: The item on Pedestrian and Bicycle Routes could be interpreted as a change to the regional bikeway alignment rather than an addition. To be clear, it should read, "The regional bikeway will remain along the NWP right-of-way. A new route shall be added that will be a Class 1 path through the plan area, and a Class 2 path on Larkspur Plaza Drive north of Doherty Drive connecting with the existing Class 1 path in the Creekside development." N-3

Finally, we noted a small but significant error in the Technical Appendices:

Appendix B, General Plan Amendments: There is an error in item 3 of the Bicycle/Pedestrian Circulation Plan Map Amendment. It should read: N-4

"Designate a Planned Class 2 Route…", not Class 3. Figure 5-3 on page 5-4 of the Draft Plan calls for a Class 2 bikeway on both sides of Larkspur Plaza Drive.

N-4
Cont'd

Thank you for the opportunity to comment on the Draft EIR, and for your attention to MCBC's comments. If you have questions or would like additional information, please contact me at (415) 924-6887.

Sincerely,

Nancy Weninger

Nancy Weninger
MCBC Board Member

N-1 As stated on Pages 4.10-7 through 4.10-11 in the DEIR, the Specific Plan includes policies and standards that would protect the aesthetic quality of the structures, including requirements for open space adjacent to the railroad structures that would allow for community activities. The commenter provides no evidence that allowing parking in the railroad right-of-way would substantially impair the aesthetic quality of the structures and the associated right-of-way. Given the Specific Plan policies and standards, the finding of a less-than-significant impact regarding this issue is valid.

As discussed under Impact 4.10-1 in the DEIR, there are no scenic vistas identified within the Specific Plan area. Parked vehicles in the railroad right-of-way would not cause an impairment of the view of Mt. Tamalpais, the primary visual resource in the vicinity. For this reason, the impact of parking as it relates to view corridors is less than significant.

Pedestrian and bicyclist safety is addressed in Impact 4.7-5. The Specific Plan calls for a combined pedestrian/bicycle route, including a Class 1 bike path, in the former railroad right-of-way. This route would separate pedestrians and bicyclists from vehicles, thus minimizing the potential for collisions. For this reason, the discussion of pedestrian and bicyclist safety in the DEIR is adequate, and parking in the former railroad right-of-way would not result in a significant impact.

N-2 The FEIR incorporates the commenter's suggestion, as shown in the following:

Page 3-3, Fourth Paragraph is revised as follows:

Doherty Park would remain in its current condition, with the possible exception of the bikeway improvements, and the American Legion hall would be retained.

N-3 The FEIR incorporates the recommended changes, as shown below:

The text on DEIR Page 4.1-10 is revised as follows:

- **Pedestrian and Bicycle Routes.** The regional bikeway will remain along the NWP right-of-way. A new route shall be added that will be a Class 1 path through the Specific Plan area, and a Class 2 path on Larkspur Plaza Drive north of Doherty Drive connecting with the existing Class 1 path in the Creekside development. ~~A new alignment to the regional bikeway, designed to Class I bike path standards, would be added.~~

N-4 The commenter suggests changes to text that is in Appendix B of the Specific Plan. The City intends to incorporate the recommended changes to the Specific Plan during the plan approval process.

O

DATE: February 5, 2004

TO: Larkspur Planning Commission

FROM: Larkspur Heritage Preservation Board

RE: Central Larkspur Specific Plan Revised Draft EIR, Section 4.11, Historical, Cultural, and Archaeological Resources

After reviewing Section 4.11, Historical, Cultural, and Archaeological Resources of the Central Larkspur Specific Plan Revised Draft EIR, the Larkspur Heritage Preservation Board makes the following recommendations:

1. Impact 4.11-2: Potential Damage to or Destruction of Archaeological Resources.

The EIR has provided information based on records search and field survey and addressed the high probability that the project could significantly impact the archaeological resources that exist on site.

The board agrees with the proposed mitigation measures described, but recommends an additional mitigation measure. **We ask that a more detailed and thorough survey be done <u>prior to</u> site planning for the area to conclusively locate the archaeological resources on the site. Site planning can then avoid the areas of buried archeological resources.** O-1

The Board bases its recommendation in part on the following section of Larkspur's General Plan*:

"...Less than five percent of the Larkspur Sphere of Influence has been surveyed for cultural resources, and there is a high probability of additional unrecorded sites. Therefore, before any ground-disturbing activity occurs, it is important that archival or field studies or both be conducted on a project-specific basis."

2. Impact 4.11-3 Alteration of or Other Effects on Known Historical Rescues

The Larkspur Heritage Preservation Board acknowledges the inclusion of information related to the number of historic resources within the specific plan area and its emphasis on the importance of portions of the Niven Nursery, the Northwestern Pacific Railroad buildings and right-of-way. O-2

The report from the survey conducted on the Niven Nursery buildings has provided important information of historical importance, some of which was previously unknown to the board. The mitigation proposed, to provide documentation of this resource, will be of historic value. Because of the poor condition of the most historic greenhouses, the board does not recommend saving these buildings.

However, as a further mitigation, **the board recommends that the documentation of the historic resources (as discussed in the first recommendation) be used to justify the creation of a memorial park, over the found resources, to honor the cultural history of the site and the historic nursery use. This will also ensure that any buried resources remain undisturbed.**

Alternatively, the park could be located at the site of the Bickerstaff house* and the first nursery buildings to commemorate the use of the site by a previous culture and the historic nursery use. Recycled elements from the Niven Nursery (i.e. Pieces of greenhouse framing, photos, etc.) and any artifacts unearthed in other sections of the property as well as information about the Coast Miwoks' life in the area) should be included in the design. O-3

*Larkspur General Plan, Chapter 3, Archaeological Resources, Page 50

*Larkspur Heritage has photos of the Bickerstaff house to help in locating the site.

O-1 The Larkspur Heritage Preservation Board agrees with the mitigation measures described for Impact 4.11-2. However, the Board requests that a more detailed survey be done before site planning for the area to conclusively locate the archaeological resources on the site. Mitigation Measure 4.11-2a, b, described on Pages 4.11-10 and 4.11-11 of the DEIR, requires an archaeological subsurface testing program be implemented before the beginning of construction to delineate and define the elements of CA-MRN-68. The mitigation states that an archaeologist shall make a preliminary assessment of NRHP and CRHR eligibility based on the results of the testing and that if CA-MRN-68 is found to be potentially eligible, then destruction of the site must be avoided. Consistent with the suggestion, the project applicant may choose to conduct the archaeological subsurface testing program prior to site planning in order to avoid the need to revise design plans. However, as long as the archaeological subsurface testing program is completed prior to development project approval and construction, no significant impacts will result from approval of the Specific Plan.

O-2 Comment noted.

O-3 The mitigation for Impact 4.11-3, Alteration of or Other Effects on Known Historical Resources, requires that the Niven Nursery structures, which appear to be eligible for listing in the CRHR, be documented according to Historic American Buildings Survey (HABS) standards. This documentation is reasonable mitigation for the Specific Plan impacts to the Niven Nursery structures, although it would not reduce the effects of demolition of nursery structures to a less than significant level. The creation of a memorial park, as suggested, is not necessary to meet the HABS standards for documentation and does not reduce the impact of demolition of the structures to a less-than-significant level. Therefore, the creation of a memorial park is not necessary, based on established guidelines, to mitigate Impact 4.11-3. However, the Board's recommendation is noted. The Specific Plan would not preclude construction of such a park.

DEBORA BUSSE

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P

February 10, 2004

Robert Pendoley
c/o City of Larkspur, Planning Dept.
400 Magnolia Ave.
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I have the following comments on the Revised Draft Environmental Impact Report for the Central Larkspur Area Specific Plan, dated November 14, 2003. While the report is clearly an improvement over the original draft EIR released in 2002, many of the inadequacies addressed in my original letter dated September 9, 2002 are still an issue.

General Comments:

- The RDEIR recommends adding traffic signals and left-turn lanes as a mitigation measure to remedy unacceptable LOS at various intersections. With the addition of left-turn lanes, are reductions to already scarce parking spaces. This is in direct conflict with the General Plan which sites *"Do not make capacity improvements to Magnolia Avenue that would encourage additional through traffic"*. P-1
- The RDEIR does not acknowledge the dramatic increase in traffic in Larkspur in recent years. Instead, the document implies that signalizing intersections will improve traffic conditions, despite the fact that Doherty Drive experiences gridlock when the morning commute "overlaps" with traffic into Redwood High, lunchtime at Redwood High, the end of the school day at Redwood High and the evening commute. Additionally, the fact that traffic on Doherty Drive and Magnolia Avenue generally exceeds the posted 25 mph speed limit, public safety is at risk. P-2

Specific Comments:

- Impact 4.2-1 states that a population growth of 264 residents, or 2.2% of the city's 12,000 population would be considered less than significant. This statistic is extremely misleading, since the total population of Larkspur includes significant numbers in geographic areas far removed from the subject property. In order to measure the increase in population fairly, at a minimum, Larkspur's population north of Corte Madera Creek (Greenbrae, Spyglass Hill, South Eliseo) should be <u>excluded</u> from the calculation. As the development will significantly impact neighborhoods adjacent to the subject area, the population growth should instead be measured against the existing populations of these adjacent neighborhoods. The impact will be considerable, once the population base is adjusted. P-3
- In the Geologic & Soils section, the RDEIR fails to analyze the underlying soil condition on Doherty Drive. The Harza study was limited to portions of the Niven property only. It is a well-known fact that Doherty Drive is built over bay mud landfill [attachment #1]. If this is to be the main corridor accessing new development in the CLASP area, the road must be evaluated for stability and it's P-4

ability to support the additional traffic, including the weight of the construction vehicles. P-4 Cont'd

- The report shows no analysis of the current conditions on Doherty Drive (east of Arroyo Holon Bridge), including the condition of the road surface, it's structural integrity and the underlying soils condition. For many years, residents have been petitioning the City to reinstate the previous restrictions on truck traffic, but this information has not been included in the DEIR, despite numerous documents and 3rd party studies that have been submitted to the City in recent years. There are no references to street repair, to the extent the road sustains damages as a result of heavy truck traffic during construction, or upgraded to accommodate the build out of the subject area. The surface of Doherty Drive is poor, and the roadbed is uneven. Despite numerous patches and partial resurfacing, the roadway continues to be pot-hole ridden and lop-sided from the 4-way stop at the main entrance to Redwood High, to beyond the bridge that crosses Arroyo Holon Creek. During the winter, when high tides coincide with rain, the westbound lane of the road is often fully or partially submerged. During these times, the Public Works Dept. uses traffic cones in an attempt to divide the remaining roadway for two-way traffic. Hamid Shamsapour has stated the north side of the road (nearest the creek) shows greater signs of degradation than the south side. P-5
- For many years, residents along Doherty Drive have experienced greater-than-average settlement. Contractors hired to correct the damages cite ground shaking, caused by heavy traffic on Doherty Drive as a possible cause. The "S" curve of Doherty (adjacent to the High School) was once a navigable waterway [attachment #2] and was filled in with bay mud excavated from the Lucky reach (the waterway between the Greenbrae/Larkspur Marina and Piper Park), as approved by the City Council on September 4, 1962. The City has no record of analysis performed on the underlying soil, and has no engineering records to document the original paving. P-6
- Attached is an early picture of the Greenbrae (Larkspur) Marina neighborhood [attachment #3] showing Doherty Drive terminating in Redwood High's west parking lot. At that time, there were no plans to connect Doherty Drive with Lucky Drive on the north side of Redwood High School, however, there were plans to connect Lucky Drive with William Avenue. P-7
- When the western portion of Doherty Drive was originally built in the late 1950's, a section of the roadway collapsed, immediately east of the Arroyo Holon Bridge. Several truckloads of rock were brought in from the local quarry, the sinkhole was filled in and the road rebuilt. A ton limitation was imposed on the street until the mid-1980's when the restriction was lifted to facilitate the building of the Creekside development. Although there are no records at Larkspur City Hall records to substantiate this, Planning Commissioner Helen Heitkemp and former Councilmember Joan Lubamersky can corroborate this information [attachment #4]. Additionally, retired city-worker Joe Monestere can confirm this, as he worked on the repair of the roadway. Considering the seismic hazards associated with this road, can Doherty Drive adequately accommodate construction and the resulting additional traffic? P-8
- The "S" curve of Doherty Drive has angles that inhibit proper line of sight for trucks, busses and other large vehicles, which causes the roadway to be unsafe. Additionally, large trucks and busses cannot navigate the turn in the road without crossing over the median. A number of reports supporting P-9

this claim are included in the document from the Rifkind Law Firm, dated May 17, 2000. In essence, the report states that in order to ensure safety on this section of the road, the speed limit needs to be lowered to less than 25 mph. As the City of Larkspur has stated they cannot enforce this lower speed limit, it would seem reasonable to exclude all truck traffic from this street, as it was originally designed. P-9 Cont'd

- The Original Draft EIR included a letter (in the back section) written by David Hinman, 672 Riviera Circle. The letter mentions the fact that his house experienced severe settlement as a result of the vibrations from the truck traffic during the Creekside development. Apart from including his letter in the Original DEIR, to date, his comments have not been addressed. P-10

- Impact 4.4-2 states the increased flood hazard to downstream areas from rainfall runoff is less than significant, based on the fact that the subject area represents 2% of the watershed area. This raises the question -- 2% of what? What method was used to calculate the potential runoff and impact on the downstream areas, such as Doherty Drive and the Greenbrae (Larkspur) Marina? As these areas are already prone to flooding during storms, especially during high tides, what evidence can be presented to prove this additional runoff will have less than significant impact? P-11
- Impact 4.5-1 states loss of habitat for common plant and wildlife species is less than significant. It's expected that animals inhabiting the area will "successfully relocate to a similar habitat elsewhere in the vicinity". Chances of this happening are fairly slim, as there are no other vacant 17.9-acre parcels nearby. While the impact may be considered "less than significant" when considering the total wild animal population of Marin, the animals on the subject property will most likely not survive after the property has been developed. The impact on those animals will hardly be "less than significant". P-12
- Impact 4.6-5 states substantial emissions of dust and diesel exhaust during construction is considered potentially significant, however, the mitigation measures described may not be sufficient. Residents along Doherty Drive adjacent to Redwood High have experienced significant dust problems resulting from construction activity in the past year, despite regular watering of active construction areas. Tarps must be required on all hauling trucks, as 2 feet of freeboard does not adequately contain dust. As the dirt on the Niven property may be contaminated due to years of pesticides leeching into the soil, containing the dust will be more important than past developments. Will the City staff be responsible for daily monitoring for compliance and possibly closing the construction site (in the event of wind gusts exceeding 25 mph)? Will there be a financial incentive for the developers to comply with this policy, i.e. fines for non-compliance? P-13
- The traffic data cited in Table 4.7-1 is inconsistent. It's difficult to believe that Doherty Drive's traffic increased by 4% from 1999 to 2003, yet Magnolia Avenue's traffic decreased by 22%. Since traffic on Doherty must originate (or terminate) on Magnolia Avenue, these figures are suspect. Since the traffic samples were not taken during similar weeks in both years, the cited change in traffic is not relevant. Differences in school schedules, events at Piper Park P-14
- The school crosswalk counts in Table 4.7-3 for Redwood High School may not have been measured properly. The report incorrectly states that Redwood High School typically finishes at 3:10pm. In fact, a large percentage of the student body ends their day after 6th period (2:15pm), and each Thursday school officially ends at 1:15pm. This timing may account for the dramatic reduction in afternoon crossings versus the morning count. Additionally, it should be noted that Redwood High has an "open campus" which results in significant P-15 P-16

traffic impacts during the lunch hour. It is not unusual for students to drive to nearby shopping plazas (Bon Air, Corte Madera Town Center, Albertsons) to purchase lunch, and return within the hour. The shrubbery along Doherty Drive is littered with debris from various eating establishments at these locations, which supports this observation. P-16 Cont'd

- The Specific Plan Trip Generation narrative draws the conclusion that larger homes generate more traffic than smaller homes. The conclusion appears to be solely based on a 2-day study of a 7 home development in Corte Madera. This study cannot be realistically considered relevant, due to the limited study size. Why are these 7 homes considered typical? How can a cottage home generate fewer car trips? There are several factors that influence car-trips; the number of vehicles and licensed drivers is more relevant than the square footage of the home. Additionally, a single retiree may generate several car trips per day while running errands, compared to a working couple that leave early in the morning and return home in the evening. P-17

- Section 4.8 of the Revised DEIR, does not address the list of inadequacies cited in my letter dated September 9, 2002.
  - Although I specifically requested that a copy of the Illingworth & Rodkin study be included in the Revised DEIR, **the study is not included in Volume #2 with the other technical appendices,** only pictures of the sound measuring devices appears in Appendix G. What is the reason for using pictures from the report, but excluding the report itself? P-18
  - When I pressed for detailed data in 2002, I received an "internal" report [attachment #5] dated August 30th from Illingworth & Rodkin,
  - In the Revised DEIR, the sound studies were said to have spanned a **24 hour** period at each home, yet these studies were actually conducted over 21 hour (690 Riviera), 22 hour (71 Riviera) and 23 hour periods (76 Via la Brisa) over two days. While the difference may appear to be trivial, the gap in hours coincides with the peak-noise hours. For example, the readings at 690 Riviera started at 1pm on May 7th and ended at 10am on May 8th. The chart shows the highest sound readings at this location at 10am, just prior to the end of the "24 hour" study. P-19
  - As stated in my September 2002 letter, the vibration measurements were collected during the phase of the new moon, which is associated with lower than average tides (resulting in lower water content in the soil). Since the water content of the soil influences the ground vibrations, the study should be repeated during the moon's full phase. P-20
  - Table 4.8-5 acknowledges over 70 traffic events producing noise levels exceeding 75 dBA at 690 Riviera Circle, the site with the 21-hour (shortest) reading. Over 70 events equate to several events per hour. While these "events" may only last 10 or 15 seconds each, it's clear this site has a constant barrage noise, and the decibel level is far from acceptable. The DEIR justifies a "less than significant impact" by stating "the noise level would continue to exceed the City's noise and land use compatibility guidelines" as defined in the Noise Element of the General Plan. Will the City take any measures to mitigate the existing noise? When did this sound level become acceptable in a residential area? P-21
  - The wording of the DEIR should be corrected to reflect the actual timing of the sound and vibration readings (with the charts), and not refer to 24-hour readings, since there were none. Again, I request the Illingworth & Rodkin report dated August 30, 2002 be added to the Technical Appendices. P-22

- The report again refers to "perceived vibrations" attributed to car stereos causing rattling of windows and stacked dishes. Every window in my home is double-paned, and do not rattle under any conditions. Loud stereos have not caused the new cracks around my back porch sliding door, despite having patched the older cracks with flexible caulking and the entire area being repainted less than 6 months ago. However, the earth moving equipment in use at Redwood High School (less than 50 feet away from my home) is most likely the culprit. I have provided documentation to the City on prior vibration damage, including separating sewer pipes, which could hardly be the result of a loud stereo in a passing vehicle. P-23
- Impact 4.9-5 states the increased demand for water supply, conveyance, water storage or water treatment is less than significant. Having lived in Marin in the late '70's and early '80's when water supplies were short, this conclusion could be inaccurate. MMWD has the same reservoirs with the same capacity; the only difference is plentiful rainfall in the past few years. A water conservation measure is mentioned as a condition, but no specifics such as low-water use landscapes, etc. P-24

Overall, the document tends to understate the potential impact to the community with respect to traffic, parking, sound and air quality, and over-promise the ability to mitigate the impacts. Additionally, I question why the Illingworth & Rodkin noise study was omitted from the report.

Sincerely,

Debora Busse

Attachments:
1) e-mail from Bob Sinnott dated 5/7/1999 discussing the underlying soil condition of Doherty Drive
2) Marin County Assessor's map from Book #24 showing the "S" curve of Doherty as a navigable waterway
3) Color photo of Greenbrae (aka Larkspur) Marina circa 1967. Doherty Drive terminates at the Redwood High School west parking lot, and is not connected to Lucky Drive.
4) Undated letter (circa fall 1999) from Joan Lubamersky acknowledging the former ton limit on Doherty Drive
5) Illingworth & Rodkin's "internal" report dated August 30, 2002 on sound and vibration studies at three houses in the Greenbrae Marina

Busse, Debora

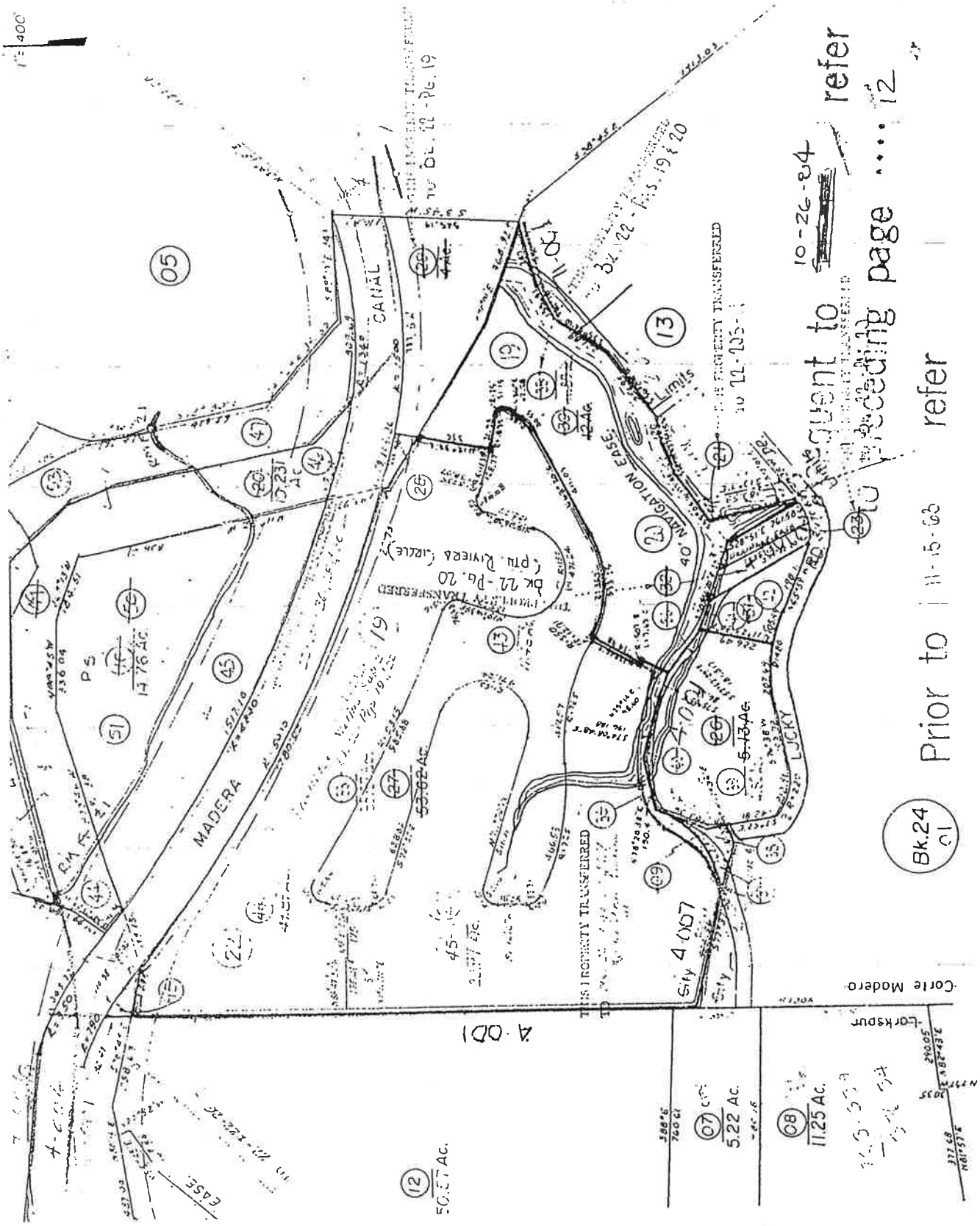
From: ChiefRBS@ix.netcom.com[SMTP:ChiefRBS@ix.netcom.com]
Sent: Friday, May 07, 1999 6:51 AM
To: Busse, Debora
Subject: RE: Parking @ Redwood High

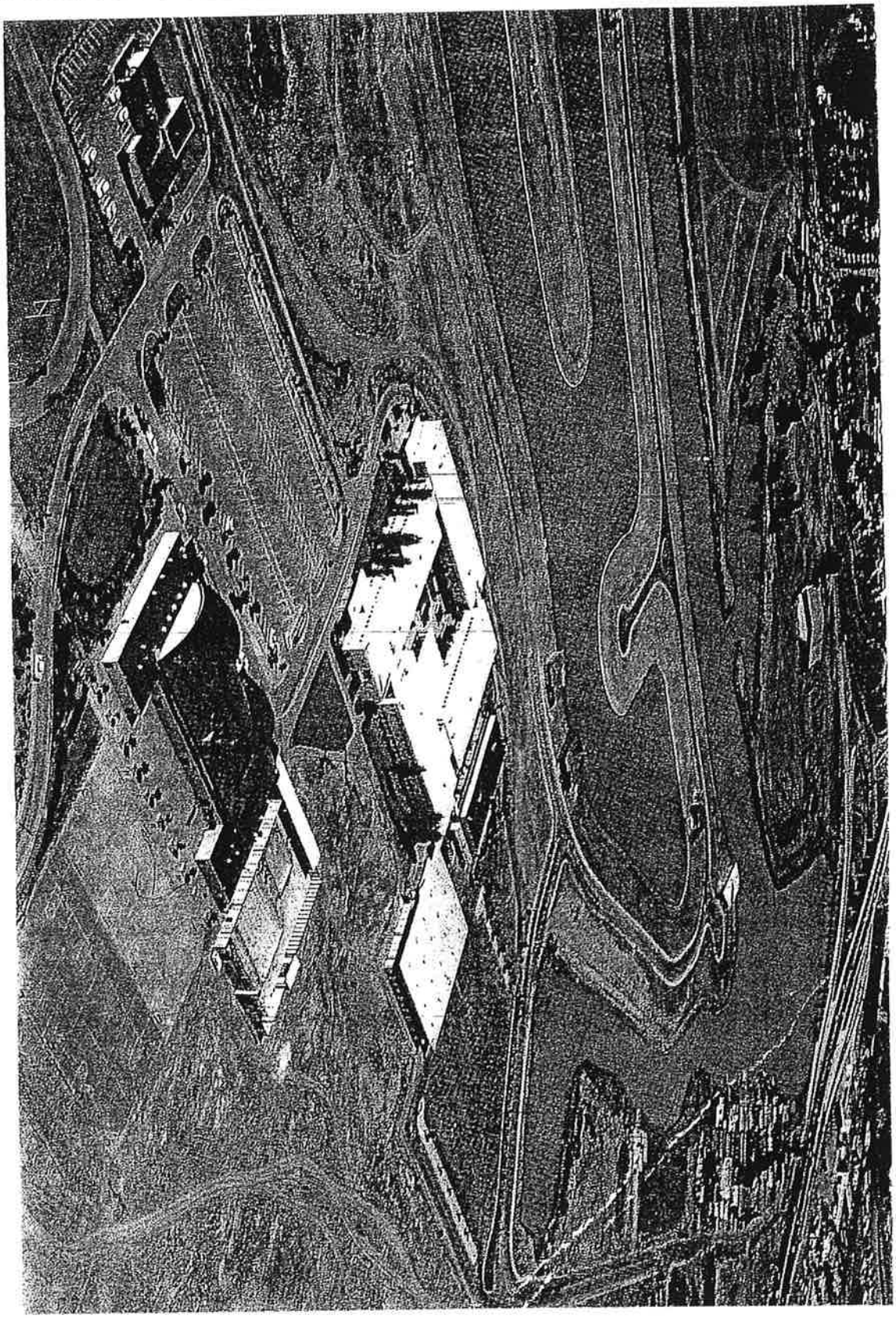
Deb -- You kind of hit the nail on the head at the Council meeting last Wednesday night. Regarding the land beneath Doherty, we know what we're dealing with: A road on bay mud, which in fact, is fairly common in this area. I would recommend that we bypass further analysis of the construction or history of the road (similar to what you said the other evening) and move towards solution strategies -- i.e. a weight limit, safety barrier, sound wall, etc. Why continue to research the past -- when it was constructed, who constructed the road, if/when load limits were imposed/removed and so on. All this probably doesn't matter much anymore. We know there are issues; so let's address 'em.

Good brainstorming on GGB buses. I'll check that out.

Bob

ATTACHMENT #1


Prior to 11-15-63 refer
Bk.24 01
Subsequent to 10-26-84 refer
to preceding page 12
MADERA
CANAL
LUCKY
NAVIGATION EASE
Corte Madera
Larkspur
A-001
5.22 Ac.
11.25 Ac.
53.62 Ac.
14.76 Ac.
5.13 Ac.
Limits



ATTACHME.
#3

Responses to Greenbrae Marina Questions
From Joan Lubamersky

1. What do I envision on the Niven site that would enhance our community?

I envision many elements which include but are not limited to housing, pedestrian and bicycle linkages and design which integrate the area with adjacent uses. The site should be developed in a manner which is consistent with the CAC goals which were adopted unanimously by the City Council. Given that the Citizens Advisory Committee for the CLASP is currently reviewing the Niven site, I believe it would be inappropriate for me to comment with any more specificity. I look forward to their report and urge Greenbrae Marina residents to be part of that process.

2. Do I support imposing a 3-ton weight limit on Doherty?

I need more information on how any weight limit might change traffic patterns creating potential negative impacts on other streets in Larkspur. I recall a weight limit sign being on Doherty in the past, and I sympathize with residents who are negatively impacted by heavy vehicles on the street. I believe that Greenbrae Marina deserves prompt action from the Council on this question once adequate information is available. I would hope, also, that the question of funding to reconstruct/realign/otherwise address insufficiencies of Doherty Drive be brought to the Larkspur 2050 Committee to reach city-wide consensus on funding options.

3. Traffic enforcement measures:

Additional patrols and police cars stationed regularly at key intersections are typically the first steps. If these have been taken, I would suggest that you contact Larry Chu of Baltimore Park who organized an effective neighborhood approach to speeding in that neighborhood. He and his neighbors worked with City staff and got good results – not perfect success, but good results.

4. Planned completion date for rain water pools:

According to the Director of Public Works and the City Manager, the completion date depends on weather conditions which would impact the work. Good weather might allow a November completion date. If poor weather and/or other negative conditions occur, the project should be completed in April 2000. DPW Director Hamid Shamsapour is an excellent engineer who works hard to address community needs. I would suggest that you keep in touch with him by voice mail and/or e-mail to follow this project closely.

5. Am I satisfied with the responsiveness of the current city manager?

If I were not satisfied, I would first raise that issue privately with her and then, if still not satisfied, I would raise it with the Council during her performance evaluation. That is appropriate personnel practice. If a City Manager does not perform well in the many aspects of the job (including community relations/responsiveness, budget, finance, labor relations, planning, public works, library, fire, police, recreation, regional issues, interagency programs such as risk management and solid waste) then performance should be discussed with her, and employment either continued based on planned improvement, or the employee should be terminated.

Thank you for the opportunity to respond to your questions. I would very much appreciate your support in my re-election.

Joan Lubamersky ATTACHMENT

FAX TRANSMITTAL

ILLINGWORTH & RODKIN, INC.

Acoustics • Air Quality

505 Petaluma Blvd South Petaluma, California 94952
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www.illingworthrodkin.com

August 30, 2002

To: Debra Busse
Resident
76 Via La Brisa
Larkspur, CA 94939

VIA FAX: (415) 927-3304 (22 pages)

SUBJECT: SOUND AND VIBRATION STUDY INFORMATION

Debra;

Attached please find Illingworth&Rodkin's internal report of the environmental noise and vibration assessment we conducted at yours and two other homes in May of this year. Following the report I have included charts showing the relative results of the various noise metrics at each of the three homes. Following this are some photos (which will likely come through poorly through the FAX) of the vibration measurements on your rear deck and stone patio and the long term noise monitor. It is understandable that you did not see the monitor as I placed it high in a tree near your western property line at the approximate setback of the rear facade of your home.

Regards,

Fred M. Svinth, Assoc. AIA
Senior Consultant
Illingworth & Rodkin, Inc.
email: fsvinth@illingworthrodkin.com

Enclosures: 11 page report, 7 pages of additional chart, 3 photos

ATTACHMENT #5

INTRODUCTION

The following report presents the results of environmental noise and vibration assessments conducted in the "S" curve portion of Doherty Drive in the City of Larkspur, CA. Doherty Drive is reported by adjacent homeowners to be a source of noise and vibration, which causes impacts on the use of their homes.

NOISE MEASUREMENT RESULTS

To quantify the existing noise exposure due to vehicular traffic on Doherty Drive at residences adjacent to the 'S' curve segment of the roadway, 24 hour continuous noise measurements were conducted between May 7 and 9, 2002 at three residences, 690 Riviera Circle, 76 Via La Brisa, and 71 Riviera Circle. On the following pages the results of each of the measurements is presented.

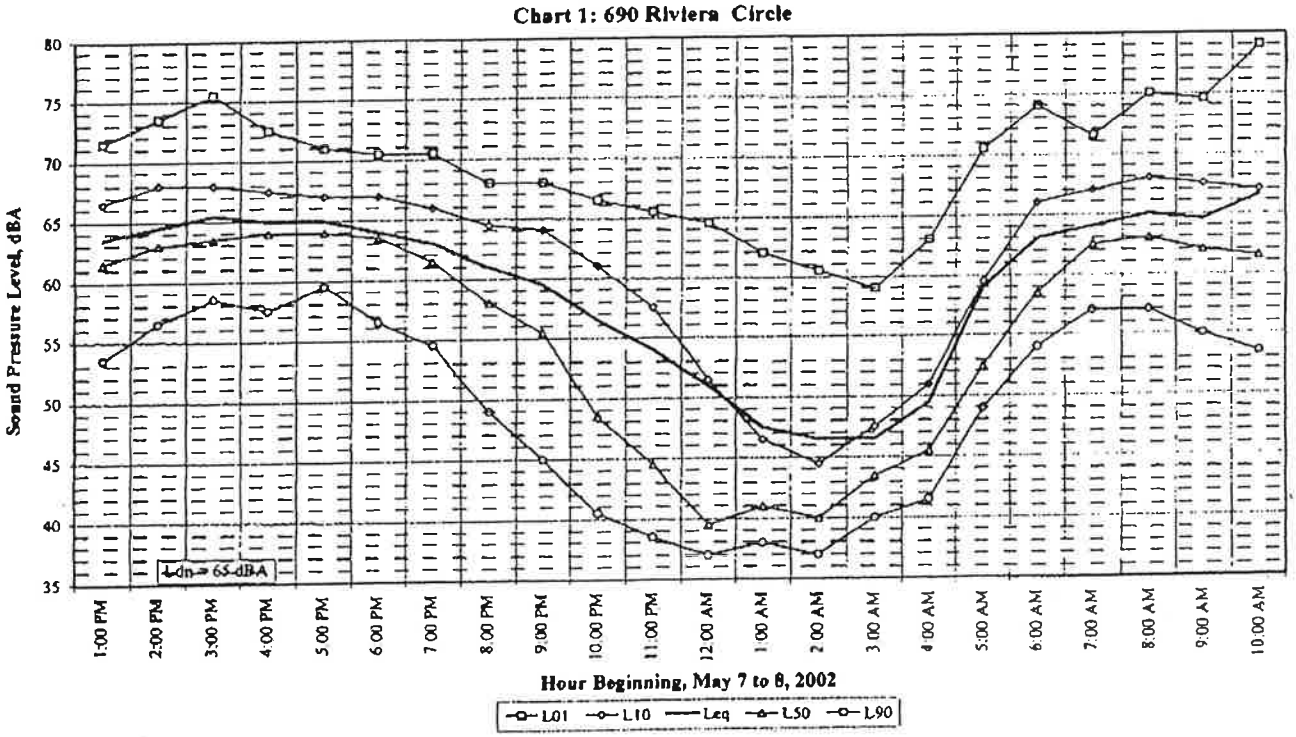
In summary, the noise environments at all the residences along Doherty Drive were found to vary significantly due to the traffic flow characteristics on the adjacent portion of Doherty Drive. Another notable variation in the measured sound levels was due to the noise shielding provided by the existing property line fences, which were higher and more effective at both 76 Via La Brisa, and 71 Riviera Circle when compared to that of 690 Riviera Circle.

690 Riviera Circle

The measurement was made in a tree in the yard at approximately 6 feet above grade and 25 feet from the centerline of Doherty Drive between 11 a.m. on May 7th and 11 a.m. on May 8th, 2002. Traffic passing on Doherty was stopping and starting at the adjacent 4-way stop intersection at Riviera Circle and Doherty Drive. The property line fence between the yard and Doherty Drive was of wood construction at a height of approximately 5 feet above rear yard grade. The tops of Trucks and large vehicles on the roadway were visible over the top of this fence.

The results of this measurement, including the energy equivalent noise level or L_{eq} and the noise level exceeded 01, 10, 50 and 90 percent of the time (indicated as L_1, L_{10}, L_{50} and L_{90}). are presented in Chart 1, below. A review of this chart shows that daytime and nighttime average (L_{eq}) noise levels ranged from 60 to 67 dBA and 46 to 63 dBA, respectively, with an average daytime L_{eq} of 64 dBA and an average nighttime Leq of 56 dBA. The average day-night noise Level (L_{dn}) was 65 dBA.

Chart 1: 690 Riviera Circle



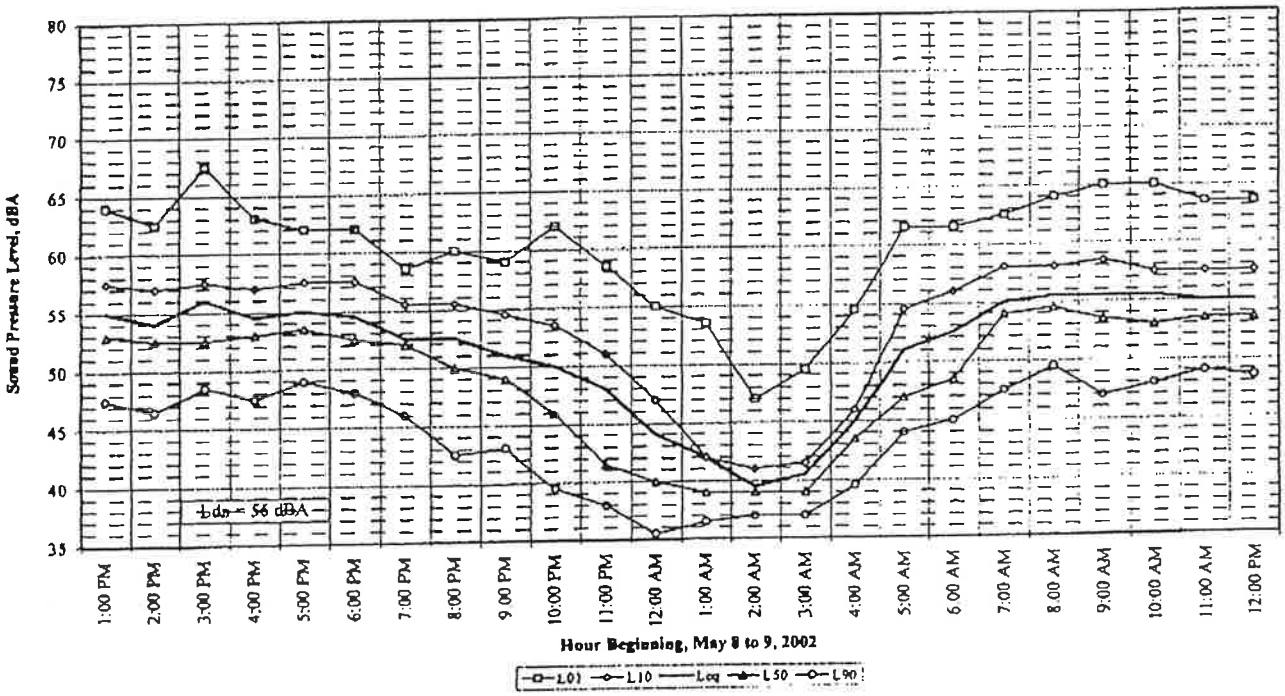
Page 1

76 Via La Brisa

The measurement was made in a tree at approximately 10 feet above grade at the setback of the home's facade, which is approximately 35 feet from the centerline of Doherty Drive, between 1 p.m. on May 8th and 1 p.m. on May 9th, 2002. Traffic passing on Doherty Drive generally traveled at constant speeds. The property line fence between the yard and Doherty drive was of wood construction at a height of approximately 6 to7 feet above rear yard grade with a high degree of foliage cover.

The results of this measurement, including the energy equivalent noise level or L_{eq} and the noise level exceeded 01, 10, 50 and 90 percent of the time (indicated as L_1, L_{10}, L_{50} and L_{90}), are presented in Chart 2, below. A review of this chart shows that daytime and nighttime average (L_{eq}) noise levels ranged from 51 to 56 dBA and 40 to 52 dBA, respectively, with an average daytime L_{eq} of 55 dBA and an average nighttime Leq of 48 dBA. The average day-night noise Level (L_{dn}) was 56 dBA.

Chart 2: 76 Via La Brisa



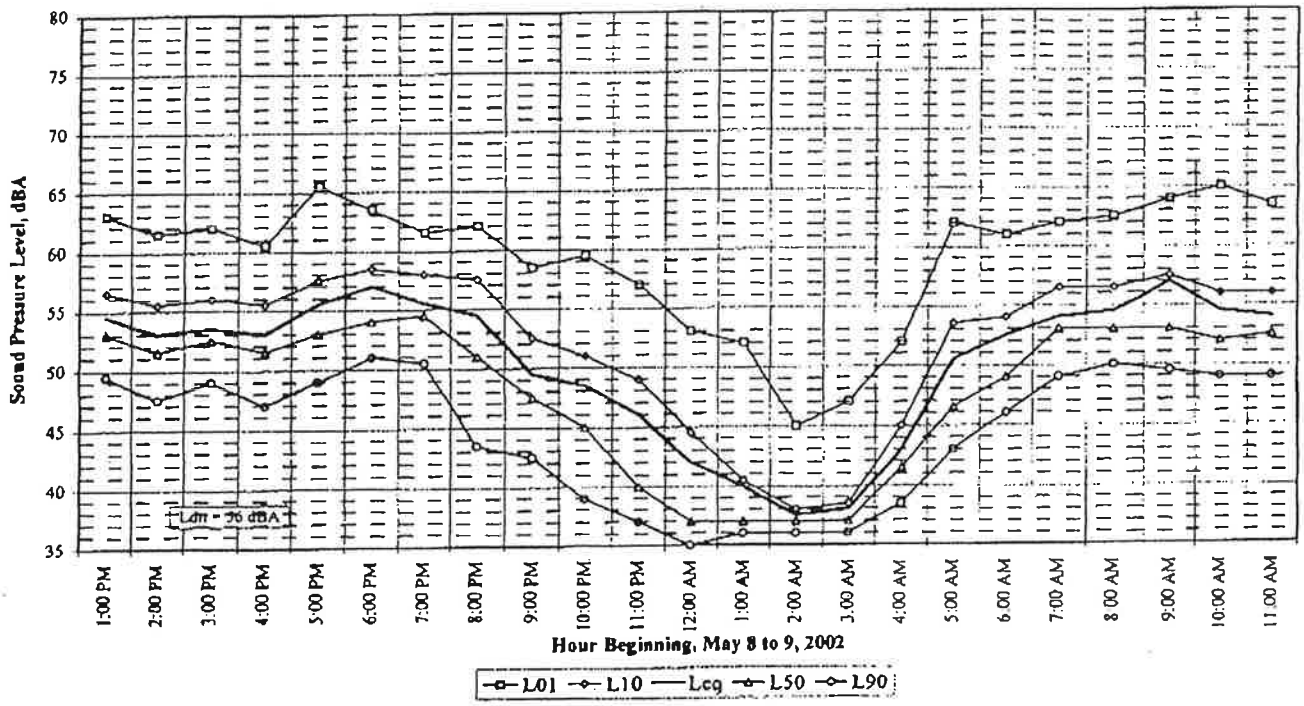
Page 2

71 Riviera Circle

The measurement was made on a patio support post approximately 10 feet above grade approximately 35 feet from the centerline of Doherty Drive, between 12 p.m. on May 8th and 12 p.m. on May 9th, 2002. Traffic passing on Doherty Drive generally traveled at constant speeds, but was observed to back up occasional due to crossing traffic from Redwood High School. The property line fence between the yard and Doherty drive was of wood construction at a height of approximately 9 feet above rear yard grade.

The results of this measurement, including the energy equivalent noise level or L_{eq} and the noise level exceeded 01, 10, 50 and 90 percent of the time (indicated as L_1, L_{10}, L_{50} and L_{90}), are presented in Chart 1, below. A review of this chart shows that daytime and nighttime average (L_{eq}) noise levels ranged from 50 to 57 dBA and 38 to 52 dBA, respectively, with an average daytime L_{eq} of 55 dBA and an average nighttime Leq of 47 dBA. The average day-night noise Level (L_{dn}) was 56 dBA.

Chart 3: 71 Riviera Circle



Page 3

BACKGROUND CONCEPTS OF GROUNDBORNE VIBRATION

Ground vibration from passing vehicles on surface roadways consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods that are typical used to quantify vibration amplitude. One is the Peak Particle Velocity (PPV) and another is the Root Mean Square (RMS) velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared amplitude of the signal. While the RMS vibration velocity amplitudes have been used by some regulatory agencies, particularly the Federal Transportation Authority (FTA), to evaluate human response to vibration transportation related groundborne vibration, the California Department of Transportation (Caltrans), citing internal experience and other studies, has adopted a PPV descriptor with units of mm/sec. or in/sec. to evaluate transportation generated vibration for building damage and human complaints.[1]

Building damage and people's response to ground vibration caused by surface transportation sources has been best correlated to the vertical velocity component of ground motion. The Transport and Road Research Laboratory in England has studied the reactions of people and the effects on buildings which continuous transportation related vibration levels produce (Vibration produced by traffic is considered continuous in these studies). The conclusions reached are reproduced in Table 1, following.

The annoyance levels shown in Table 1 should be interpreted with care since vibrations may be found to be annoying at much lower levels than those shown, depending on the level of activity or inactivity the individual. Elderly, retired, or others staying mostly at home, people reading or studying in a quiet environment, and people in involved in vibration sensitive activities are example of people potentially annoyed by vibration at very low levels. To these and other sensitive individuals even vibrations at the threshold of perception can be annoying.

Frequently, low-level traffic vibrations can cause irritating secondary vibration, such as a slight rattling of windows, doors or stacked dishes. The rattling sound can give rise exaggerated vibration complaints, even though there is very little risk of actual structural damage. In high noise environments, which are more prevalent where groundborne vibration approaches perceptible levels, this rattling phenomenon may also be produced by loud airborne environmental noise causing induced vibration in exterior doors and windows.

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[1] Caltrans Technical Advisory, Transportation Related Earthborne Vibrations, TAV-02-01-R9601, Page 6

Table 1 – Reaction of People and Damage to Buildings for Continuous Vibration Levels

Velocity Level, PPV (in/sec)	Human Reaction	Effect on Buildings
0.006 to 0.019	Threshold of perception: Possibility of intrusion	Vibration unlikely to cause damage of any type
0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
0.20	Vibrations annoying to people in buildings	Threshold at which there is a risk of "architectural" damage to normal dwellings such as plastered walls or ceilings.
0.4 to 0.6	Vibrations considered unpleasant by people subjected to continuous vibrations	Vibration at this level would cause "architectural" damage and possibly minor structural damage.

Source: "A Survey of Traffic Induced Vibrations" by Whiffen and Leonard, Transport and Road Research Laboratory, RRL Report LR418, Crowthorne, Berkshire, England, 1971

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VIBRATION MEASUREMENT RESULTS

Measurements of the vibration impact due to vehicular traffic on Doherty Drive at residences adjacent to the 'S' curve segment of the roadway were conducted between May 7 and 9, 2002. Vibration levels produced by passing traffic (particularly trucks) where measured both at ground level and on a portion of the homes at three residences, 690 Riviera Circle, 76 Via La Brisa, and 71 Riviera Circle. Municon Consultants previously measured groundborne vibration levels before and after the repaving of Doherty Drive at these residences.

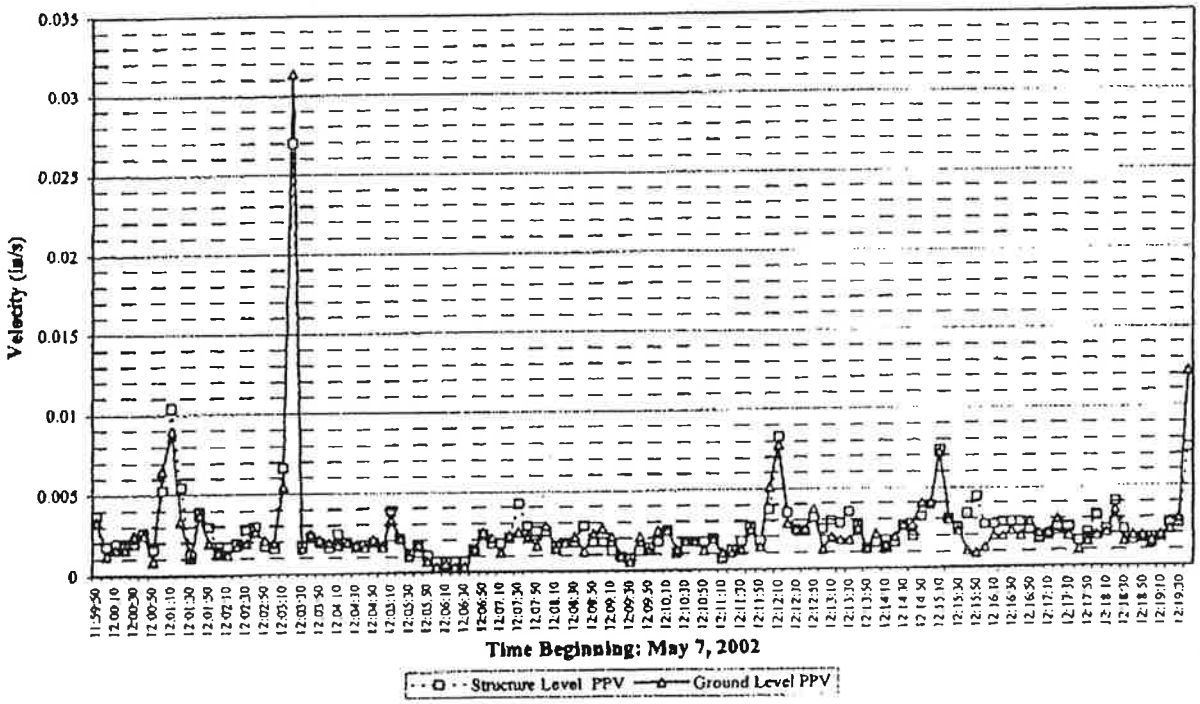
The instrumentation used to conduct the vibration measurements was a Larson Davis Laboratories Human Vibration Meter model 100 (HVM100) equipped with a seismic grade, low noise accelerometer (PCB, Model 393B31, 10 V/g). This system is capable of measuring accurately very low vibration levels (down to 1 μg). To enable continuous overnight un-manned measurements at 690 and 71 Riviera Circle, the vibration meter was setup to measure both peak particle velocity (PPV) levels and 10-second RMS velocity levels. For the short-term vibration measurements at 76 Via La Brisa the RMS averaging time was changed to 1-second.

The ground level accelerometer was firmly affixed to concrete walkways at each of the measurement locations. At 76 Via La Brisa, and 71 Riviera Circle the structure level accelerometer was firmly affixed to exterior decking within 1 foot of the deck the home structure connection. At 690 Riviera Circle the structure level accelerometer was firmly affixed to the ledge of a window seat. Because vibration levels produced by surface traffic are typically most dominant in the vertical axis, vibration levels were monitored in this direction only. For reference we would expect ground vibration levels in the other two perpendicular axes (longitudinal and transverse directions), to be less significant. On the following pages we discuss the results of these measurements:

690 Riviera Circle

Continuous 24-hour period vibration measurements were made at 690 Riviera Circle over a continuous 24-hour period between 11 a.m. on May 7th and 11 a.m. on May 8th, 2002. During this period a simultaneous noise measurement was made with exceedence levels set at 75 dBA to establish loud noise events such as truck passbys on Doherty Drive. The results of these un-manned measurements show that passing trucks, which produced sound levels of between 76 and 81 dBA at the long-term measurement location, generated maximum exterior groundborne PPV vibration levels of 0.031 in./sec. and maximum PPV vibration levels on the home's structure of 0.027 in./sec. Chart 4, below shows these maximum PPV levels during a large truck passby in a representative 20-minute file sample. The number of traffic events producing noise levels exceeding 75 dBA was the greatest at this location with over 70 individual events during a 24-hour period exceeding 75 dBA. However, none of the vibration measurements showed that PPV levels at ground level or the structure reached readily perceptible levels. In general vibration velocity levels were below 0.01 in/sec.

Chart 4: Vibration Levels at 690 Riviera Circle



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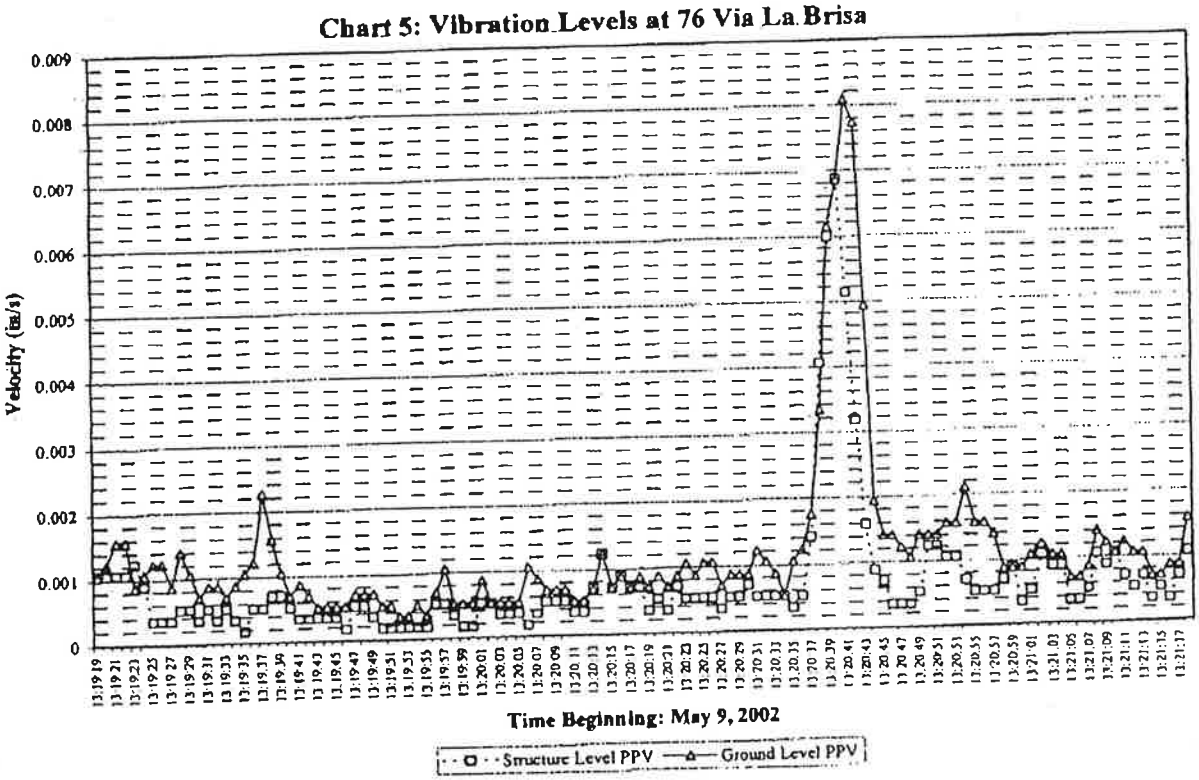
76 Via La Brisa

Short-term manned spot vibration measurements were made at 76 Via La Brisa on the afternoon of May 9th, 2002 during individual truck and bus passbys. The results of these measurements show that passing trucks, which produced sound levels of between 68 and 77 dBA at the long-term measurement location, generated maximum exterior groundborne PPV vibration levels of 0.006 in./sec. and maximum PPV vibration levels on the home's structure of 0.005 in./sec. Figure 2, below shows the PPV vibration signature of an individual large truck passing at 1:10 p.m. During the 24-hour noise measurement made at this residence only two traffic events producing noise levels exceeding 75 dBA occurred. Because of this and the results at the other two locations we would expect that no vibration levels at ground level or the structure would reach readily perceptible levels on this property.

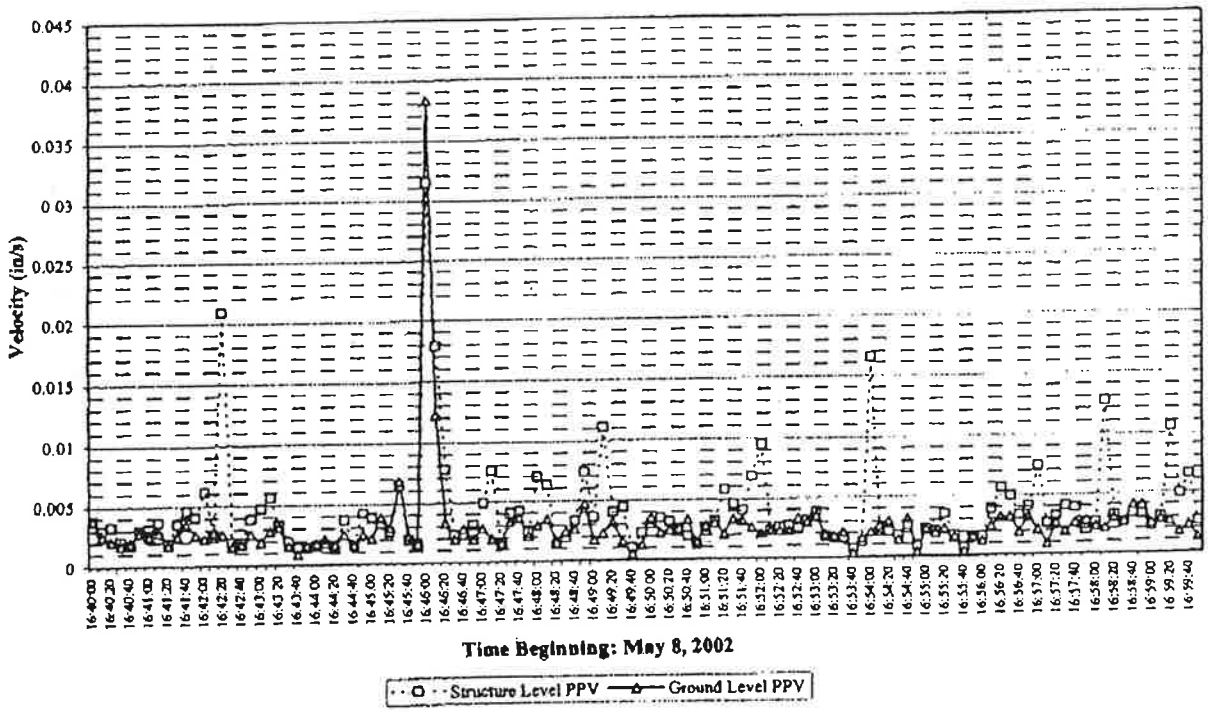
Chart 5: Vibration Levels at 76 Via La Brisa



71 Riviera Circle

Continuous 24-hour period vibration measurements were made at 71 Riviera Circle over a continuous 24-hour period between 12 p.m. on May 8th and 12 p.m. on May 9th, 2002. During this period a simultaneous noise measurement was made with exceedence levels set at 75 dBA to establish loud noise events such as truck passbys on Doherty Drive. The results of these unmanned measurements show that passing trucks produced maximum sound levels of between 73 and 78 dBA. Exterior groundborne PPV vibration levels produced by roadway traffic reached a maximum level of 0.038 in./sec. PPV vibration levels produced by roadway traffic on the home structure reached a maximum level of 0.031 in./sec. The Chart below shows these maximum PPV levels during a large truck passby in a representative 20-minute file sample. Six traffic events producing noise levels exceeding 75 dBA occurred at this location during a 24-hour period and none of the vibration measurements showed that PPV levels at ground level or the structure reached readily perceptible levels. In general vibration velocity levels were below 0.01 in/sec.

Chart 6: Vibration Levels at 71 Riviera Circle



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Summary and Conclusions:

The maximum PPV levels measured at each of the residences are compared to the maximum levels previously measured by Municon before and after Doherty Drive was repaved in the table, below:

Address	I&R Groundborne	Municon Groundborne After repaving	I&R Structureborne
690 Riviera Circle	0.031 in./sec.	n/a	0.027 in./sec.
76 Via La Brisa	0.006 in./sec.	0.03 in./sec.	0.005 in./sec.
71 Riviera Circle	0.038 in./sec.	0.06 in./sec.	0.031 in./sec.

Based on the results of both our and Municon's vibration data, we can conclude that vibration levels at ground level produced by heavy trucks passing on Doherty Drive are just above the threshold of perception and well below a level which is typically considered to be readily perceptible. The Structureborne vibration measurements show that in all cases there is some damping of exterior groundborne vibration within the homes. Therefore, vibration for trucks passing on Doherty Drive would not be considered perceptible would not result in any structural damage to homes of typical construction quality.

Based on our observations during the vibration study and experience with similar situations we would conclude that any complaints from residents in this area of excessive vibration are a result of airborne noise from passing vehicles on Doherty drive causing induced vibration doors, windows or lightweight or loosely affixed items at the homes. This sort of acoustic induced vibration can produce irritating secondary vibration and rattles, which may be mistaken for structural vibration.

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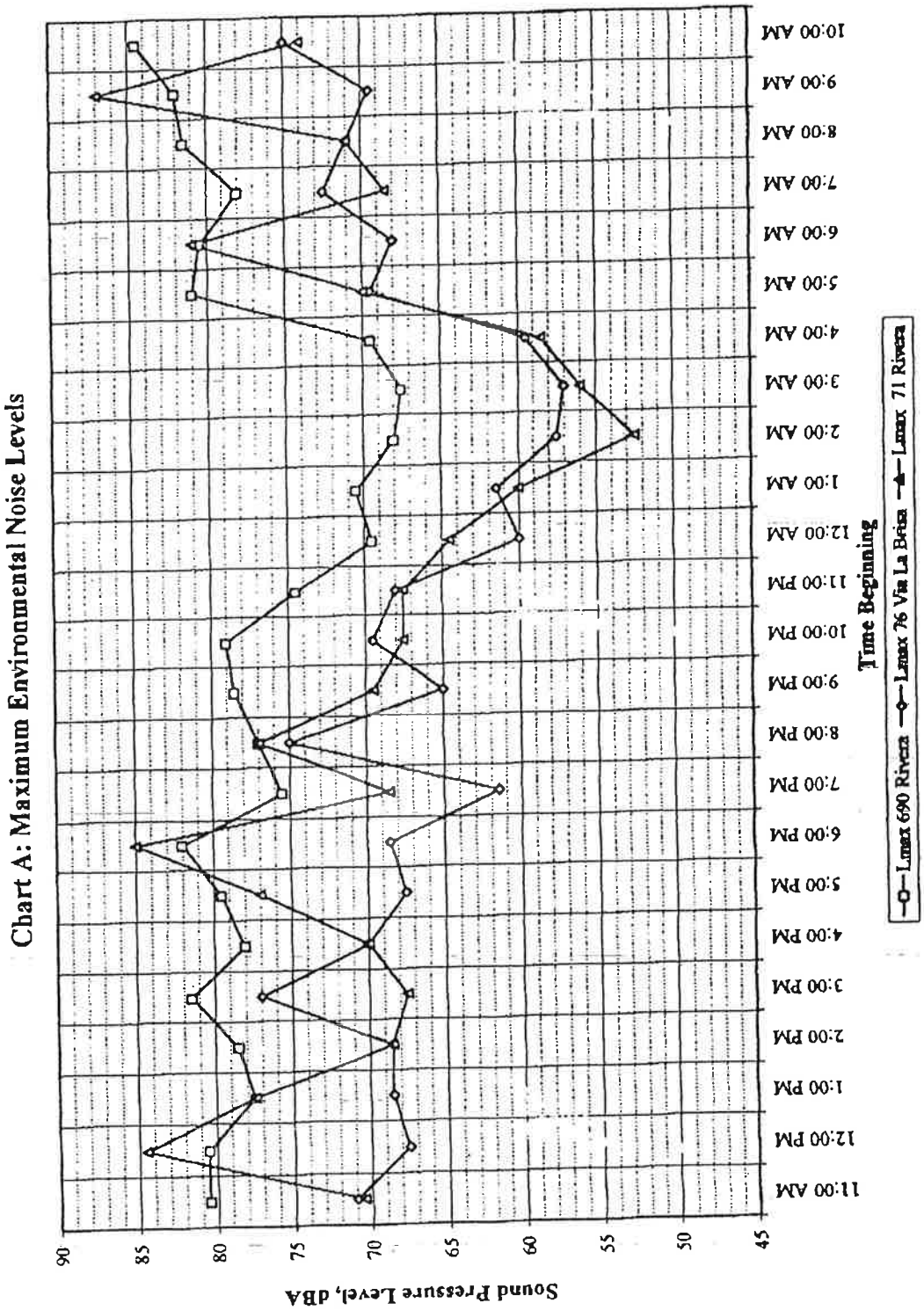


Chart A: Maximum Environmental Noise Levels
Sound Pressure Level, dBA
90
85
80
75
70
65
60
55
50
45
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
12:00 AM
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
Time Beginning
Lmax 690 Rivera
Lmax 76 Via La Brisa
Lmax 71 Rivera

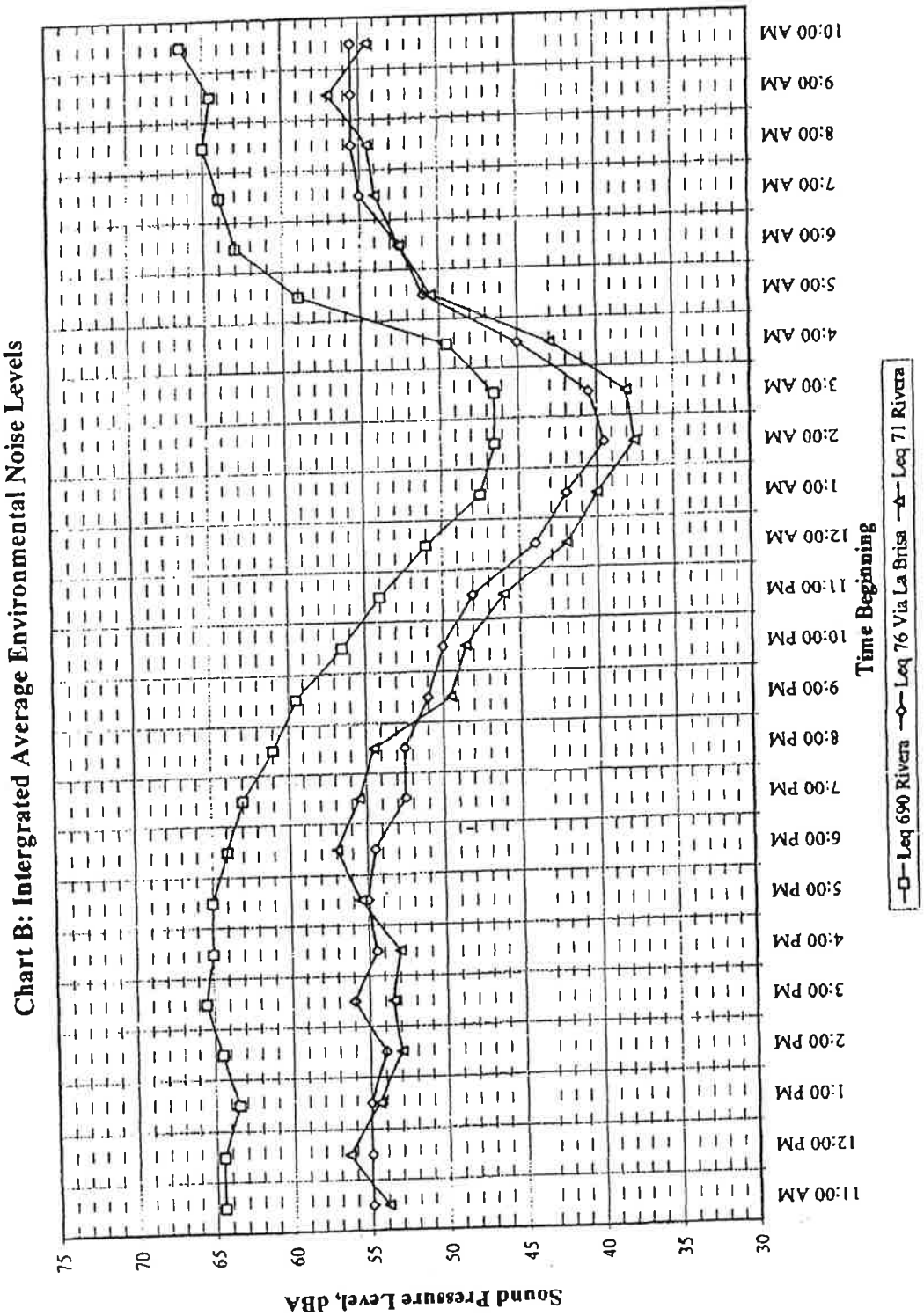


Chart B: Intergrated Average Environmental Noise Levels
Sound Pressure Level, dBA
75
70
65
60
55
50
45
40
35
30
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
12:00 AM
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
Time Beginning
Leq 690 Rivera
Leq 76 Via La Brisa
Leq 71 Rivera

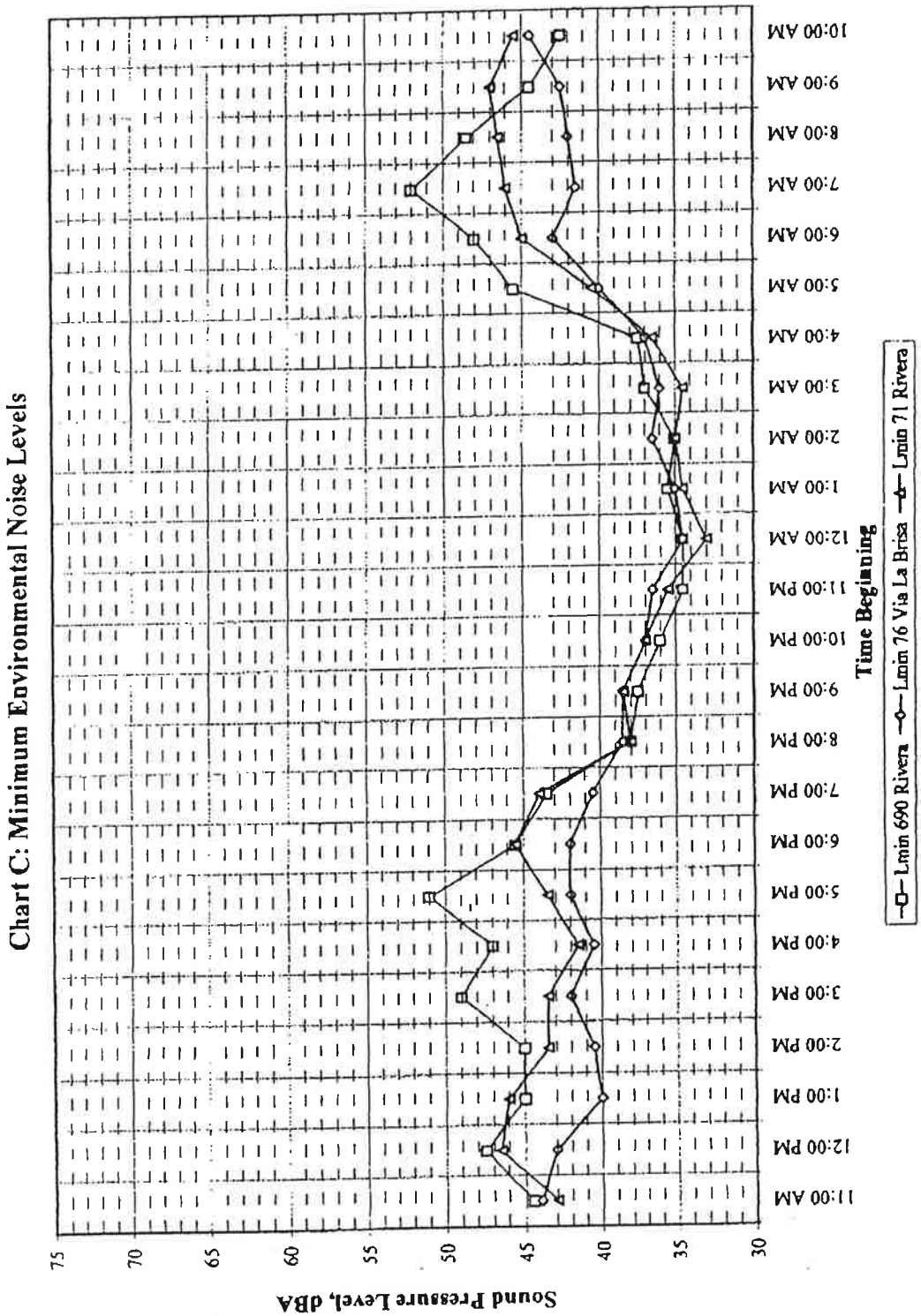


Chart C: Minimum Environmental Noise Levels
Sound Pressure Level, dBA
75
70
65
60
55
50
45
40
35
30
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
12:00 AM
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
Time Beginning
Lmin 690 Rivera
Lmin 76 Via La Brisa
Lmin 71 Rivera

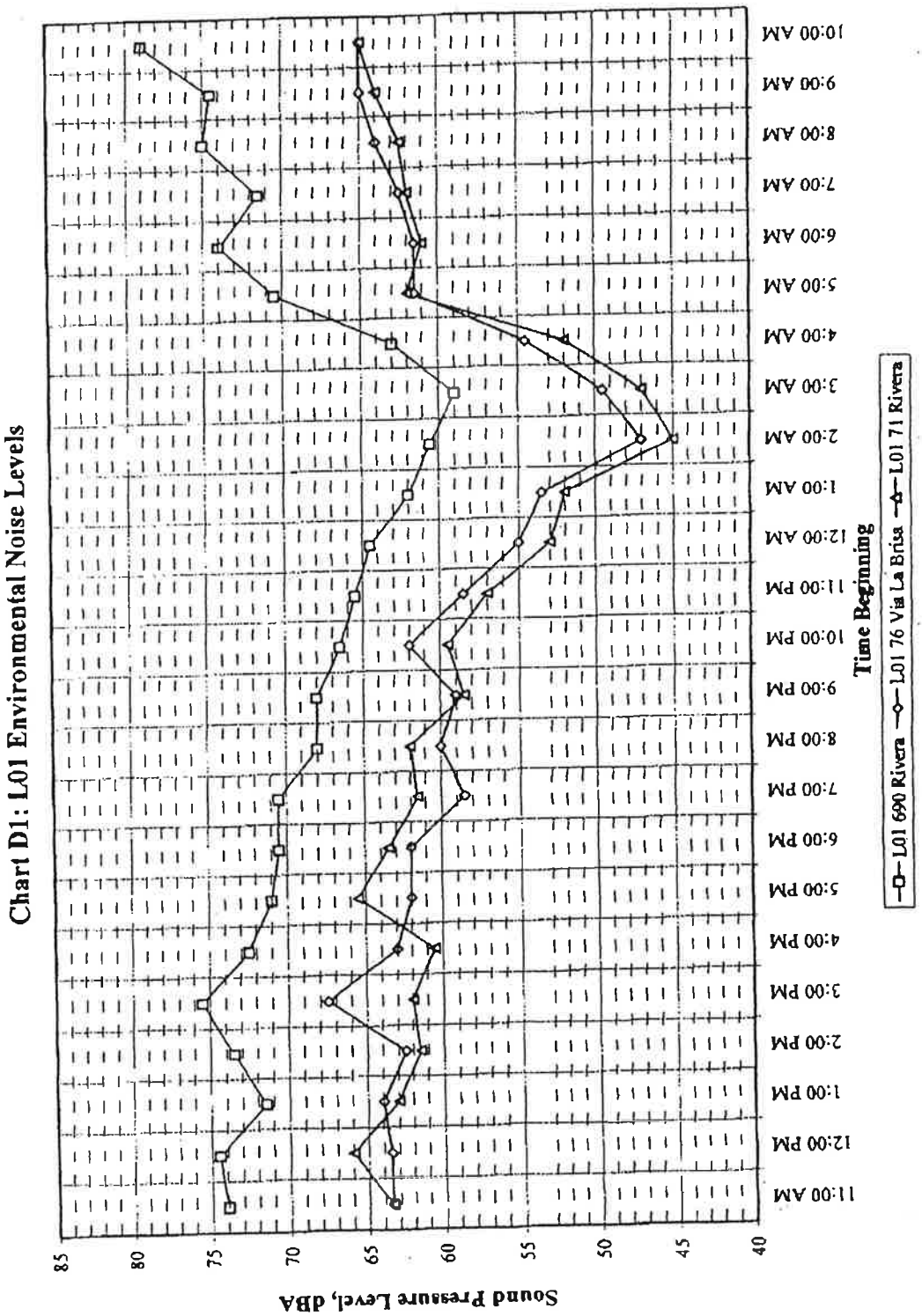


Chart D1: L01 Environmental Noise Levels
Sound Pressure Level, dBA
85
80
75
70
65
60
55
50
45
40
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
12:00 AM
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
Time Beginning
L01 690 Rivera
L01 76 Via La Brisa
L01 71 Rivera

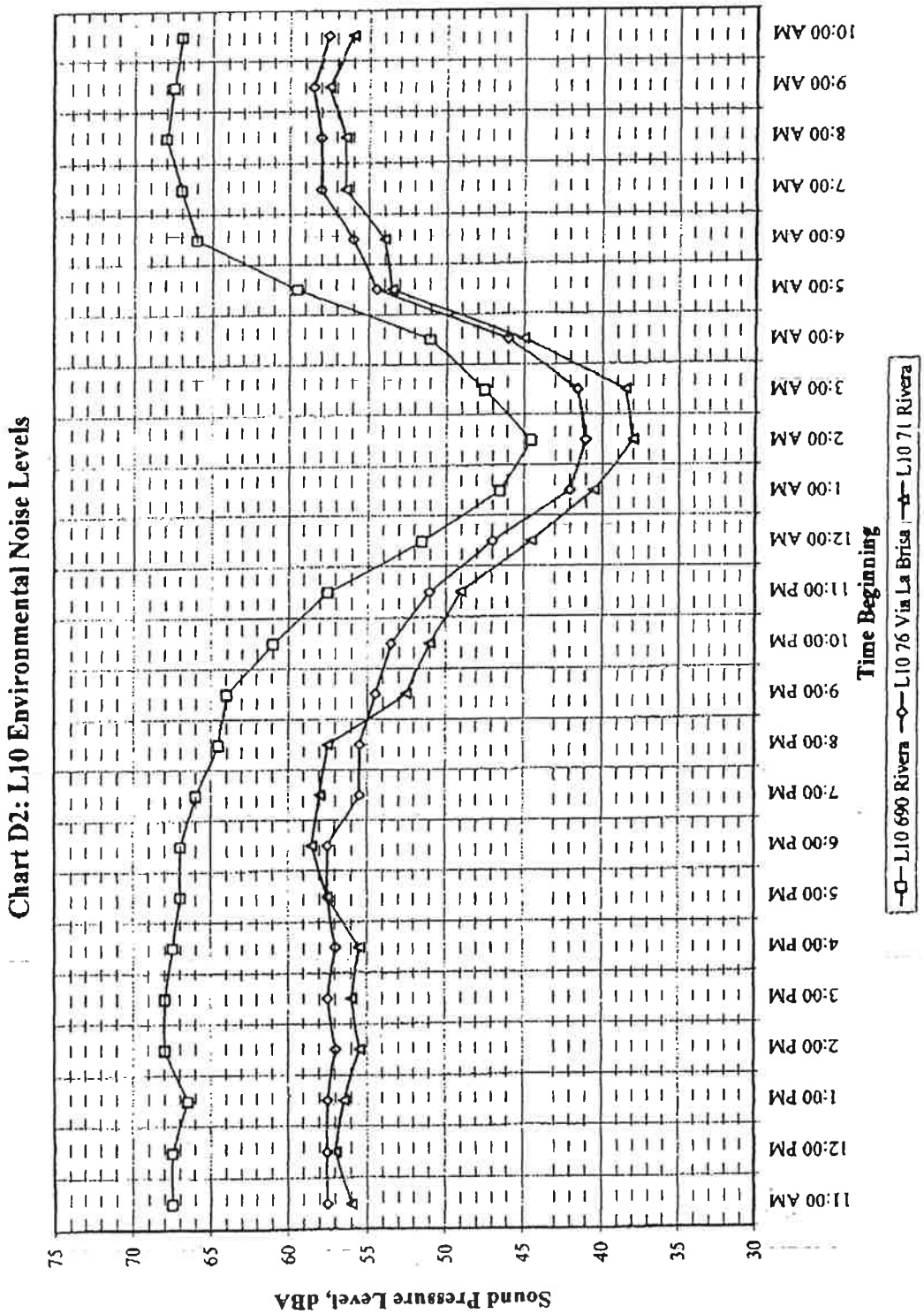


Chart D2: L10 Environmental Noise Levels
Sound Pressure Level, dBA
75
70
65
60
55
50
45
40
35
30
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
12:00 AM
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
Time Beginning
L10 690 Rivera
L10 76 Via La Brisa
L10 71 Rivera

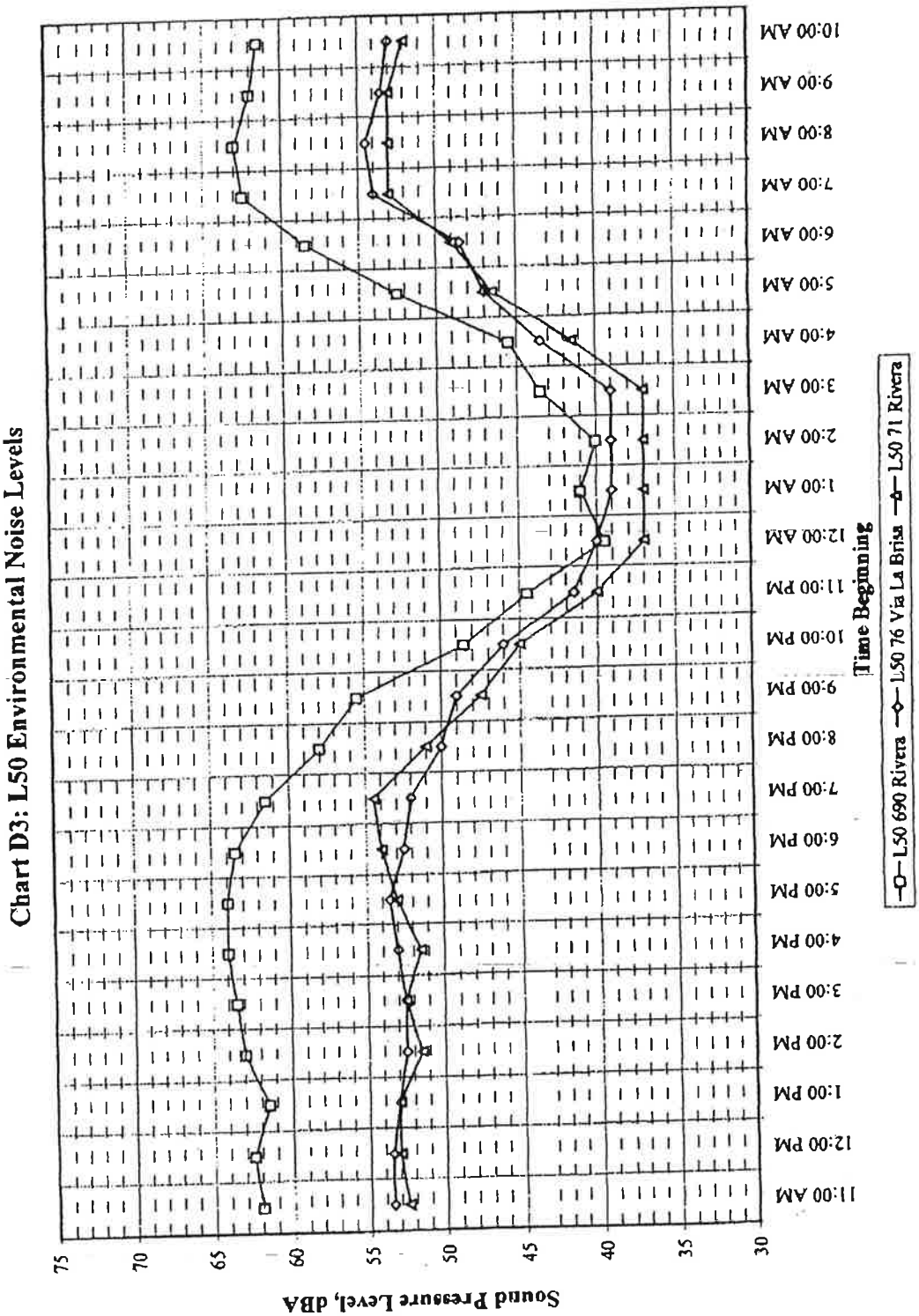


Chart D3: L50 Environmental Noise Levels
Sound Pressure Level, dBA
75
70
65
60
55
50
45
40
35
30
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
12:00 AM
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
Time Beginning
L50 690 Rivera
L50 76 Via La Brisa
L50 71 Rivera

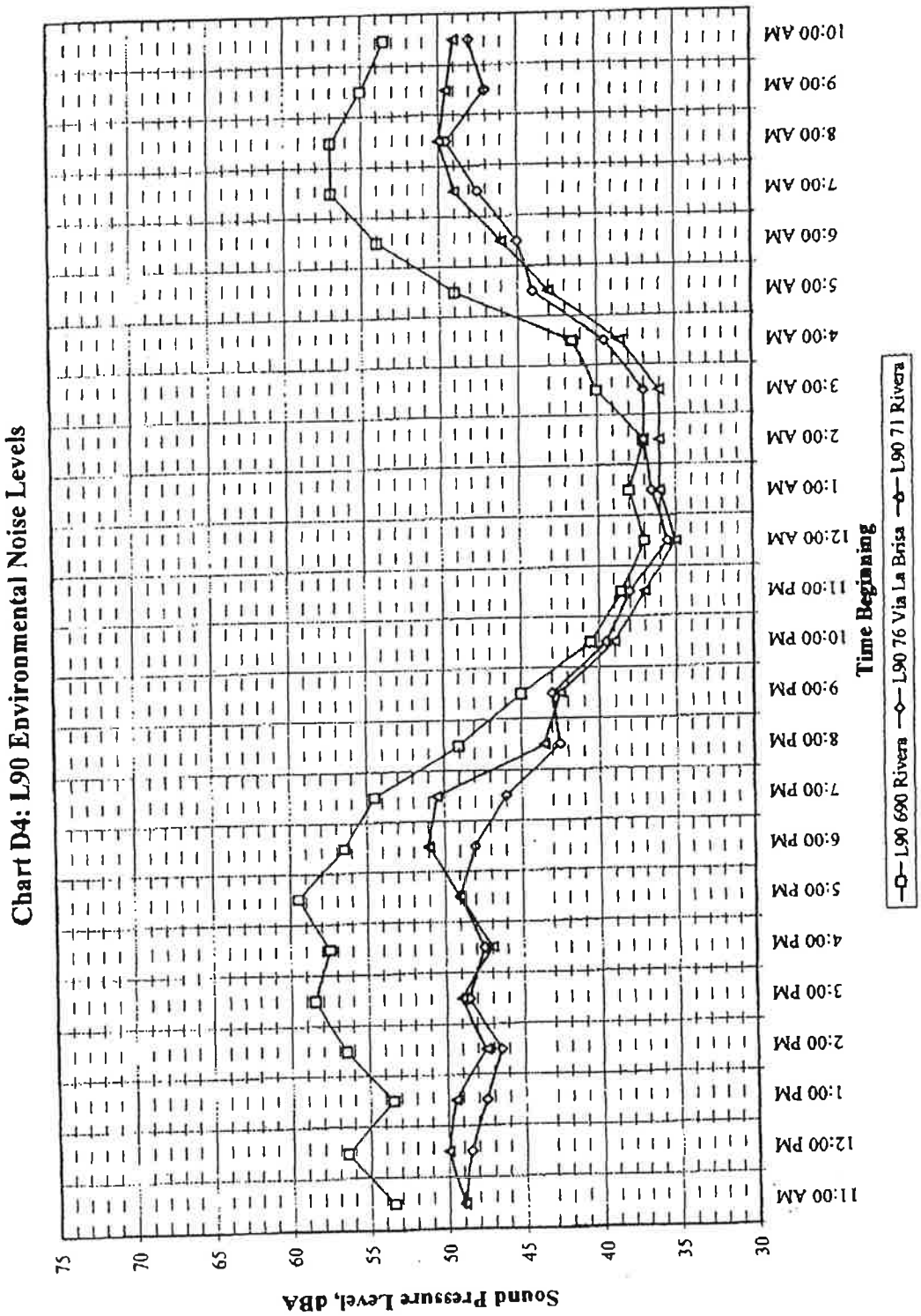
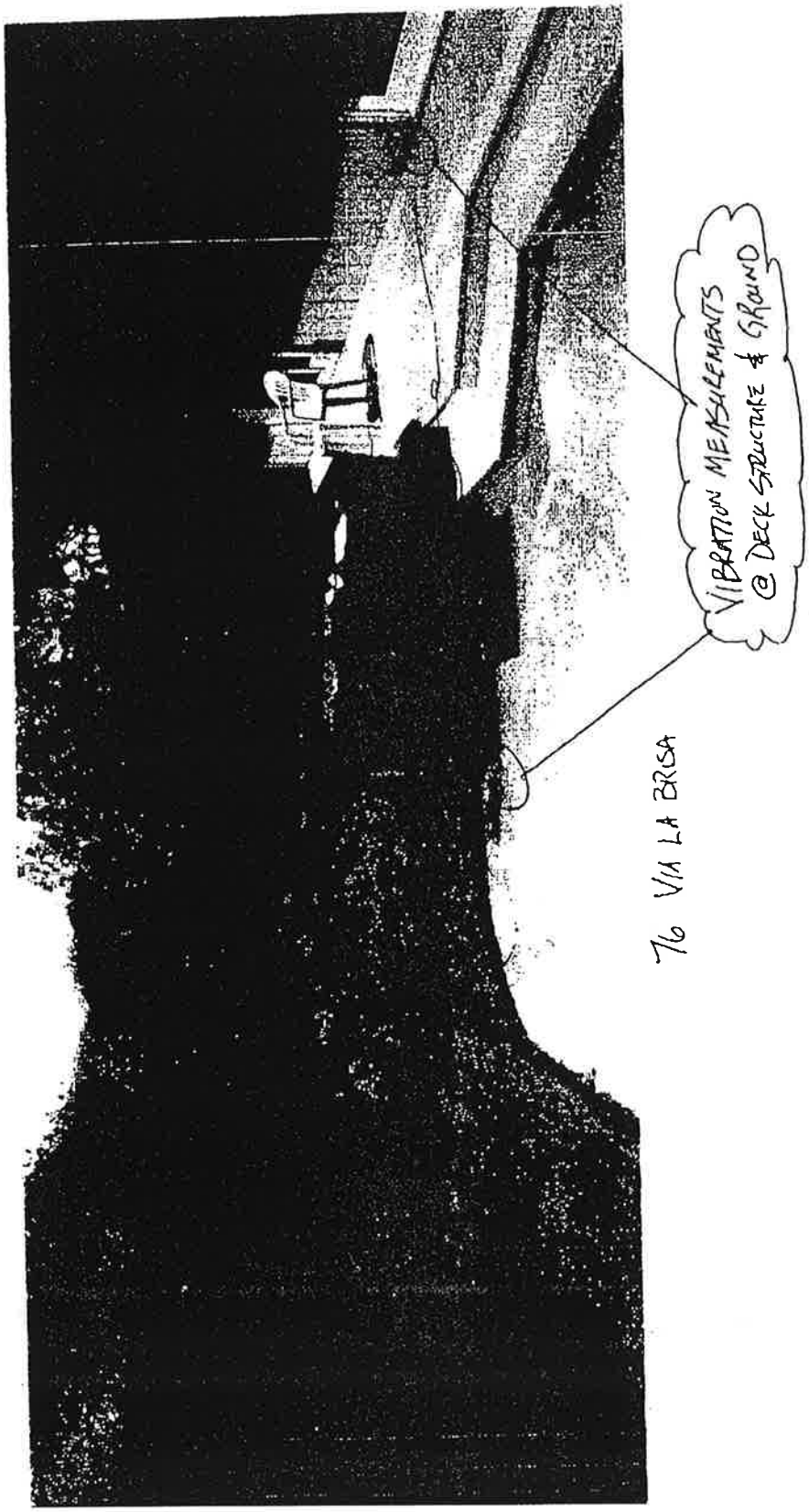


Chart D4: L90 Environmental Noise Levels
Sound Pressure Level, dBA
75
70
65
60
55
50
45
40
35
30
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
12:00 AM
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
Time Beginning
L90 690 Rivera
L90 76 Via La Brisa
L90 71 Rivera


VIBRATION MEASUREMENTS
@ DECK STRUCTURE & GROUND
76 VIA LA BRISA

P-1 The signalization of Magnolia Avenue/King Street, one of the DEIR mitigation measures, could be considered a capacity improvement because a signal would theoretically allow more traffic to pass through the intersection in an hour than if the intersection is unsignalized. Whether or not more vehicles would choose to use this route if a signal was installed is not known.

The DEIR finds that this intersection operates below acceptable levels of service during the PM peak commute period. The City has considered improvements at this intersection on a number of occasions and, after weighing potential options, has decided to allow the intersection to continue as a four-way stop and to operate at unacceptable PM peak hour LOS. The decision whether or not to install a signal remains with City decision makers.

The mitigation proposed at East Ward Street on Magnolia Avenue would include the removal of some on-street parking in order to provide turning lanes to and from the Specific Plan area. The removal of parking to enhance access to and from the Specific Plan area would not increase capacity for through traffic on Magnolia Avenue. The through lanes on Magnolia Avenue would remain as is; the inclusion of project turn-lanes at this location would likely have the effect of marginally reducing through-traffic capacity. The reason for the reduction is that through traffic would tend to slow as project traffic moved from the through lane to the turn pocket. This is an effect that is recognized and accounted for in the Highway Capacity Manual analysis methodologies and other related publications.

CEQA requires that project-related significant impacts be disclosed and that feasible mitigation measures be developed and analyzed to determine if the impact can be reduced to a less-than-significant level. The proposed mitigation measure will be considered and weighed by the City; however, the primary task of the traffic analysis, when a significant impact is identified, is to develop and test feasible mitigation. In the case of East Ward Street/ Magnolia Avenue, it was determined that the removal of some of the on-street parking spaces and the use of that pavement as a turn-lane would, under future conditions, improve the operation of the intersection to acceptable LOS D. The decision makers who will contemplate the approval of development proposals for the Specific Plan area will balance the need for this mitigation measure against the goals of the General Plan and the needs of the community. Providing plausible options and reasonable alternatives to decision makers and the public is a primary purpose of an environmental impact analysis. For this reason, the DEIR traffic analysis meets the requirement of CEQA.

P-2 The DEIR reports the findings of data collection efforts related to traffic volumes on Doherty Drive and Magnolia Avenue in May 2003. The counts reflect an overall decrease in traffic (2,800 daily, weekday vehicle trips) on Magnolia Avenue from 1999 and an increase on Doherty Drive of about 4% (about 400 daily, weekday vehicle trips). Traffic volume data also indicates that peak period commute has remained fairly steady throughout the study area between 1999 and 2003. Peak period activity in the Doherty Drive corridor generally shows modest increases. The DEIR provides the ADT data and also provides operations analysis for 13 study area intersections during both the A.M. and P.M. peak hours.

The DEIR notes the periods of heavy congestion on Doherty Drive that are the result of commute and school related traffic overlapping. The signalization of some of the identified affected intersections will improve traffic operations by providing uniform control of traffic flows and increased efficiency compared to current unsignalized conditions. Signalization, however, will not reduce traffic volumes in the corridor. Excessive speed on any roadway is most often a matter of enforcement and cannot be considered an effect of the Specific Plan. It is noted that the congested conditions on Doherty Drive during peak periods make it difficult for vehicles to exceed speed limits.

P-3 Please refer to response to Comment L-1.

P-4 The DEIR includes analysis of this issue. Please refer to Impact 4.3-4 for discussion.

P-5 The DEIR acknowledges the existing damage caused by settlement and submersion, and impacts related to underlying soil conditions are discussed under Impact 4.3-4. Additional traffic volume, including construction trucks, could accelerate the wear and tear of the roadway surface, which would be addressed by the City's roadway maintenance activities. It is noted, however, that the City has recognized that construction activities generate additional traffic volumes on local roadways and can increase roadway wear and tear; it, therefore, has enacted a Street and Roadway Impact Fee (Larkspur Resolution No. 11/03) that is charged at the time of building permits and is used to offset the increased cost to the City for roadway maintenance and repair resulting from construction activities. No further response is required.

P-6 The DEIR (see Impact 4.3-4) addresses settlement and underlying soils. The comment provides no additional information that contradicts the DEIR analysis. No further response is necessary.

P-7 The comment is noted. The comment does not pertain to the adequacy of the DEIR, and no further response is necessary.

P-8 As stated in the comment, the weight restriction was lifted approximately 20 years ago. The City maintains its roadways in accordance with the City's established codes and regulations, and the roadway appears to adequately accommodate existing traffic, and

development in the Specific Plan area would generate an increase of traffic volume by up to 10%. See response to Comment P-5.

P-9 The comment is noted and will be considered by the City. It is the responsibility of the Department of Public Work and other City agencies to ensure that roadways are operating within specific design criteria requirements and to regulate jurisdictional roadways so that both safety and design requirements are met. Because the comment does not speak to the adequacy of the DEIR analysis, no further response is required.

P-10 The potential for traffic to generate vibration is analyzed in DEIR Impact 4.8-4 at Page 4.8-14.

P-11 Page 4.4-4 of the DEIR (Surface Water Hydrology and Sedimentation) describes the existing drainage conditions on the Specific Plan area. The DEIR states that the Specific Plan area is located adjacent to Larkspur Creek, which drains an area of 1.75 square miles (or 1,120 acres) to its confluence with Corte Madera Creek. The Specific Plan area occupies about 21.9 acres of that area, or approximately 2% of the Larkspur Creek watershed.

Impact 4.4-2 (Page 4.4-15 of the DEIR), assesses the potential impact of increased flood hazards to downstream areas from rainfall runoff. The impact is found to be less than significant because the Specific Plan area does not substantially contribute to offsite flooding, because much of the area is already developed with impervious surfaces, and because the additional development proposed is unlikely to significantly increase surface runoff. This conclusion was reached (page 4.4-15 of the DEIR) by calculating peak storm runoff from the two on-site drainage areas that currently contain a significant amount of pervious area. Calculations were made both of current conditions and worst-case future conditions, where the drainage areas were completely covered with impervious surfaces. This was done for the 100-year runoff event using the guidelines in the County Department of Public Works' Hydrology Manual Simplified Instructions (Marin County Department of Public Works 2000). The potential increase in surface runoff from implementation of the Specific Plan was calculated and the results were provided in Table 4.4-2 on DEIR Page 4.4-16. The maximum potential surface runoff increase was determined to be approximately 5 cfs, which is less than 0.4% of the peak 100-year discharge in Larkspur Creek of 1,463 cfs (BSI Consultants, Inc., 1989). Because of this small contribution of stormwater runoff from the Specific Plan area under paved conditions and because the downstream flood hazards are controlled primarily by tidal water elevations, Impact 4.4-2 is considered less than significant.

P-12 The discussion of Impact 4.5-1 states that "grading and construction...would remove habitat for a number of common (i.e., nonsensitive) plant and wildlife species," and that "some animals may successfully relocate to nearby parcels with similar habitat, but some mortality is expected, and the local populations of some species in the Specific Plan area would be reduced." The impact discussion also discloses that after buildout of the

Specific Plan area, indirect effects of people and their domestic animals would further reduce some wildlife populations.

As described on DEIR Page 4.5-15, significant effects on biological resources would include those that resulted in "a substantial reduction of habitat for fish or wildlife species, reduction in a fish or wildlife species population below self-sustaining levels, threat of elimination of a plant or animal community, or a reduction in the number or range of an endangered, rare, or threatened species."

Impact 4.5-1 is determined to be less than significant because the impact of the Specific Plan on plant and wildlife species would not exceed this threshold. Although local populations of some common species found in the Specific Plan area are likely to be reduced (such as black-tailed deer), the species affected are common, and would remain regionally common. Therefore, the Specific Plan would not result in the reduction of fish or wildlife species below self-sustaining levels. For this reason the less than significant determination for Impact 4.5-1 is appropriate.

P-13 With regard to monitoring and issuance of fines for non-compliance, the City's building and engineering staff and consultants monitor and enforce conditions of approval of development projects, including air quality requirements. The DEIR mitigation measures include standard measures recommended by BAAQMD, and are adequate to preclude significant adverse impacts. However, the comment is noted and will be considered by the City. When specific development proposals are submitted to the City for approval, the City will determine conditions of approval to be implemented by construction contractors, including constructions specifications associated with dust control.

P-14 See response to Comment L-5.

P-15 Crosswalk pedestrian counts were taken in May 29, 2003 during the peak hour in order to understand pedestrian activities during the traditional peak commute hour. School-related pedestrian activity that may occur at 2:15 PM or 1:15 PM would occur when background traffic is lower than peak periods and therefore was not recorded or analyzed for the DEIR. The FEIR contains the following revision to clarify Redwood High School's schedule.

Page 4.7-15, Fourth Full Paragraph is revised as follows:

Surveys of crosswalk activity at Hall Middle School and Redwood High School were conducted during the weekday morning and afternoon peak periods in May 2003. Results of the pedestrian counts are shown in Table 4.7-3. Hall Middle School typically is in session between 8:40 a.m. and 3:10 p.m. Monday through Friday with the exception of Wednesdays when classes are held from 9:00 a.m. to 3:10 p.m. Redwood High School starts at 8:00 a.m. and typically finishes at 3:10 p.m., with the exception of Thursdays when school ends at approximately 1:15 p.m. Table 4.7-3 shows volumes

for 20-minute time periods. The volumes for the two high school crosswalks are combined. The crosswalk located at Lucky Drive and the back parking lot carries approximately 70% of the high school crosswalk activity.

P-16 Some students at the high school leave the campus in vehicles during lunch time, creating traffic congestion for a short period of time. The noontime high school activity would be less in terms of the traffic that was recorded during peak commute periods. The peak period analysis represented the worst case condition for a typical day. Mitigation proposed for worst case conditions would adequately address other off-peak activity spikes. For this reason, the DEIR traffic analysis is sufficient.

P-17 There is agreement that the larger home trip generation rates are based on a small sample consisting of seven homes over a brief duration of time. This rate is likely to be higher than the actual trip generation that would be generated from the large homes in the Specific Plan area. .The survey trip rates were used because the Planning Commission was concerned that the standard ITE rates may underestimate the residential trips from the Specific Plan area. For the purposes of CEQA, the rate used in the DEIR provides for the worst case scenario and, thus, meets the criteria for environmental analysis.

Cottage homes would generally be expected to generate vehicle trips at a lower rate than single-family detached units. This is consistent with the ITE trip generation rates, which are higher for larger homes and lower for smaller homes. Cottage homes are planned for smaller parcels and, in some cases, the cottage homes would be attached units. The Specific Plan would allow for some cottage home units that would be 1,500 square feet and larger. On average, however, the cottage homes units would be smaller than the single-family detached units; for this reason, the estimated trip generation rate would also be lower.

It is noted that the DEIR traffic analysis focuses on the A.M. and P.M. peak hours for purposes of environmental analysis. Focus on the peak hours of traffic and trip generation activity is appropriate for determining impacts on roadways and intersections and is an approach that is consistent with standard CEQA procedure and traffic impact analyses.

P-18 Illingsworth & Rodkin, Inc. prepared a number of studies for the City. For example, DEIR Section 4.8, Noise, incorporates the Central Larkspur Specific Plan Environmental Noise Assessment (Illingsworth & Rodkin, Inc. 2002) in its entirety. The FEIR includes one other technical study prepared by Illingsworth & Rodkin, Inc. for the City's consultant in 1999. The FEIR also incorporates the technical report submitted by the commenter.

P-19 The noise measurements were taken over a 24-hour period. The commenter is referred to Chart B in the internal Illingsworth & Rodkin, Inc. report (August 30,

2002) for a chart of the 24-hour reading results. As shown, the 11 A.M. L_{eq} was below that of 10 A.M. For this reason, the highest L_{eq} reported in the DEIR is valid.

P-20 The commenter is correct that water content of the soil is a factor in the transference of vibration. However, the commenter does not provide evidence that water content in the soil at the site fluctuates with the lunar phase or that any such fluctuation would be great enough to cause substantial difference in the vibration transmitted. For this reason, it is speculative to suggest that the measurements are insufficient because of the lunar phase. It is also noted that according to the U.S. Naval Observatory, the moon was actually in between the last quarter and the new moon phases during the dates when the vibrations were taken (May 7 and May 9 in 2002). No change to the DEIR is necessary on this topic.

P-21 As with most local agencies, the City establishes noise standards based on average weighted noise level during a 24-hour day rather than on individual short-term noise events. For this reason, the DEIR noise analysis is based on the Community Noise Equivalent Level (CNEL), and it finds that the contribution of noise generated by potential new development in the Specific Plan area would not be considered significant (see DEIR Impact 4.8-1). The DEIR noise analysis complies with the City's standards and the industry standard for community noise analysis, and is thus valid.

P-22 See response to Comment P-19.

P-23 Structural damage caused by construction at Redwood High School is outside the scope of the Specific Plan and is, therefore, not analyzed in the DEIR. The DEIR includes technical studies that show that traffic-induced vibrations would not be substantial enough to cause structural damage. For this reason, the DEIR finds this impact to be less than significant.

P-24 The Marin Municipal Water District (MMWD) encourages water conservation throughout Marin County through a variety of programs. MMWD has a tiered rate structure that penalizes excessive water use and a strict "water waster" ordinance to penalize water waste and encourage the use of water-saving fixtures and appliances. MMWD offers voluntary conservation programs such as rebates to businesses for installing water efficient dishwashers, toilets and clothes washers. MMWD also provides landscape standards for water-conserving landscaping and educational programs on water conservation measures (MMWD 2004). These water conservation measures would be applicable to land uses in the Specific Plan area. Water conservation measures are not required as mitigation measures, however, because the impact is determined to be less than significant.

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Q

February 11, 2004

Chair Ratner and Members of the Planning Commission and
Mr. Robert Pendoley, Consulting Planner
City of Larkspur
400 Magnolia Avenue
Larkspur CA 94939

RE: Revised Draft Environmental Impact Report for Central Larkspur Specific Plan
SCH# 2001112092

Chair and Members of the Commission and Mr. Pendoley:

On behalf of Larkspur Housing Partners this submits comments on the Revised Draft Environmental Impact Report ("Revised DEIR") for the Central Larkspur Specific Plan ("Plan"), dated November 14, 2003, and prepared by EDAW. Comments are given for the first page(s) on which the item occurs. If the item commented on occurs again later in the Revised DEIR this requests that our comment be taken to apply to that and any other time the item is mentioned in the Revised DEIR.

We do not comment separately on the Executive Summary but request that all of your responses be applied to the Executive Summary as well as the primary text of the Revised DEIR.

1. Introduction

Page 1-5, §1.3: The statement in the first sentence that names the permit approvals which are included in and contemplated by the Central Larkspur Specific Plan and are covered by this Revised DEIR should also be added to Chapter 2 for a clear Project Description, such as the following.

"The Project analyzed in the Revised DEIR is:

- amendments to the General Plan and the Downtown Specific Plan;
- adoption of the Central Larkspur Specific Plan; and
- rezoning of Subarea 3 to Planned Development District, with the adoption of the Central Larkspur Specific Plan as the Preliminary Development Plan."

Q-1

2. Project Description

Page 2-, 3rd ¶: The reference to flooding of the "northwestern portion of the Specific Plan area" should state "the northwestern portion of **Subarea 3...**" Q-2

Page 2-15, Affordable Multifamily Housing and Pages 4.2-2 through 4.2-5: On page 2-15 the 27 multifamily units are described as including "very low-, low-, and moderate- income housing". On pages 4.2-2 through 4.2- 5 the multifamily units are described, as in the currently adopted Housing Element, as "low- and moderate- income". Q-3

There is a significant difference in the economic feasibility and type of buildings that result in very low-income housing versus low-income housing. The general rule is that significant subsidies are required to provide very low- income housing. The Specific Plan does not appear to identify a source for that subsidy. The Final Revised EIR should correct the conflicting statements and state whether potential very low- income units are a realistic possibility on this property without a significant funding source and if so how and in what amount. Q-3 Cont'd

Page 2-15, Inclusionary Housing: We know of no such action as "an offer to purchase... being exercised". Paragraph 3 on page 4.2-5, in the Population and Housing chapter, provides a more accurate description of the situation. A more brief and correct description of the provision would be:

> **"Land Use Policy 29 of the Plan specifies that if purchase of the affordable housing site, which may be made available for purchase by the developer of Subarea 3, is not completed within 16 months from recordation of the Final Map for Subarea 3, the site shall not thereafter be available for such purchase."** Q-4

Page 2-15, Total Housing: "If the offer to purchase is not exercised" has no meaning and should be changed to the phrase **"If the multifamily housing site is not purchased for affordable housing..."**

Page 2-16, Circulation: Please clarify if our understanding as follows is correct and if so add this clarification to the Final Revised EIR.

> **"The reconstruction of Doherty Drive is a City of Larkspur project. The developer of Subarea 3 will pay traffic impact fees that will be added to other City funds for the project, but the timing of development of Subarea 3 is not dependent on the City moving forward and completing its Doherty Drive reconstruction project."** Q-5

Page 2-19, 2nd ►: Revise to: "Rezone of Subarea **3** (...) **with the Specific Plan as the Preliminary Development Plan.** Q-6

Page 2-20: For Subarea 3 the Revised DEIR uses a "large single-family home" vehicle trip generation rate for 28 of the 35 single-family homes, in order to analyze a "theoretical maximum development" scenario. A correct description of the survey from which this rate is taken should state that it calculated traffic from seven **4,000-plus sq. ft. homes**. Q-7

It would be most fair to the public and the property owners of Subarea 3 if the Revised DEIR disclosed, in addition to the "worst-case analysis", that it is unlikely that Subarea 3 would be able to accommodate 28 lots with 4,000-plus sq. ft. homes, particularly with the Specific Plan limitations of a 40% Floor Area Ratio and 0.9 acre public park. Q-8

We request that the report of the survey of "large single-family home" homes in Corte Madera be made available to the public for review and be included in the Technical Appendices and cited on page 2-20 of the Project Description, as well as in the Traffic chapter when the data from it is used to calculate the "worst-case scenario analysis" for traffic generation from development of Subarea 3. Q-9

4.1 Land Use and Planning

Page 4.1-8, Final ¶: Rezoning of Subarea 3 from L-1 to P-D with the Specific Plan as the Preliminary Development Plan **will take place at the same time as adoption of the Central Larkspur Specific Plan**, not by way of a some future independent approval process. (see Table 1-1 and text on pages 1-4 and 2-19). Q-10

Page 4.1-9, Park Dedication Ordinance; page 4.1-11 &12 General Plan Amendment and page 4.1-12, 5th ¶ and pages 4.9-7 & 8 (Impact 4.9-2) in Public Services chapter:
The Revised DEIR assumes that a public park dedication is required for Subarea 3, even though the General Plan does *not* show a separate park for Subarea 3, probably because the site is about 2 minutes walk from Piper Park and the school recreational fields. This lack of analysis raises two questions we ask be answered:

(1) Why is it assumed that a public park *dedication* is required for development of Subarea 3, but *payment of in-lieu park fees* is adequate for the potential 47 multifamily residential units in Subareas 1 and 2? If there is evidence that a public park dedication requirement is supported for park-users to be generated by Subarea 3 (thus a General Plan amendment would be needed), isn't there evidence for similar park dedication requirements on Subareas 1 and 2, if those areas are developed with residential uses?

(2) Page 4.1-9 states: "If residential units were developed in Subareas 1 and 2, this figure would be commensurately higher". This statement seems to assume that Subarea 3 may be required to provide even a larger park in order to cover the park-users generated by Subareas 1 and 2. This statement is incorrect and should be deleted because there is no nexus between Subarea 3 and the park demand of Subareas 1 and 2. Q-11

(3) Why doesn't the Revised DEIR analysis include the information that there are two possible options to achieve consistency with the adopted General Plan:

(a) changing the *Draft* Specific Plan to match the adopted General Plan map of parks and therefore not show a public park requirement for Subarea 3, allowing payment of in-lieu fees like is done for Subareas 1 and 2;

or

(b) as assumed- amending the adopted General Plan to add a public park requirement on Subarea 3?

Page 4.1-12, 4th ¶: Class I bike path is on south side of Doherty Drive and the **east** (not west) side of Larkspur Creek (See Plan Chapter 5 - Policy 21 and Standards 11 and 12). Q-12

4.3 Geology and Soils

Page 4.3-17 & 18, New Policy for Mitigation of Impact 4.3-3: The final sentence of this policy should be revised as follows to allow the activities within the buffer that are required by other mitigations:

"... No construction activity, including the storage of construction materials, or vehicles staging, or maneuvering, shall be permitted in the buffer area, **except those activities to implement requirements of the San Francisco Bay Regional Water Quality Control Board for water treatment and stormwater detention ponds and to implement the native plant restoration plan for upland habitat in the buffer area, as described in the Mitigation for Impact 4.5-2a, b- as set forth on page 4.5-21 of this Revised DEIR."** Q-13

Page 4.3-18, Mitigation for Impact 4.3-5a,b: There is no Mitigation Measure 4.3-4. Q-14

4.4 Hydrology and Water Quality

Page 4.4-21, Mitigation for Impact 4.4-6: There is no Mitigation Measure 4.4-3. Q-15

4.5 Biological Resources

Page 4.5-21, Mitigation for Impact 4.5-2a,b: As described in this new policy the Larkspur Creek buffer area is an **upland habitat**, not a salt marsh habitat. Revise the title of the mitigation to correctly reflect its contents. Q-16

4.7 Traffic and Circulation

Traffic – Environmental Impacts, general comment: The "worst-case scenario" analysis of traffic results from using vehicle trip generation rates which are significantly greater than more realistic trip generation capability. This "worst-case" results in a "theoretical maximum development". Although such a "worst-case" result may be desirable to assure that traffic impacts are not, even possibly, underestimated, the "worst-case" numbers cannot be used to size traffic improvements or those improvements will be seriously overbuilt and the City and property owners will have paid for unnecessary and overbuilt improvements. This "theoretical worst-case" has no nexus to the actual traffic that will result from a specific site development plan. State law requires that when traffic impact fees are imposed, the actual traffic, and not some "theoretical maximum" must be used to calculate traffic impact fees on development. Q-17

Page 4.7-18, Specific Plan Trip Generation: The first paragraph in this subsection states that the trip generation rate survey for large single family homes was done in June, 2002, not May, 2002, as previously stated. See also our comment for Page 2-20 of this Revised DEIR. Provide the report for this survey in the Appendices so that the public can determine when and how the survey was done and whether it is correctly being used in the traffic analysis for Subarea 3. Q-18

Pages 4.7-18 & 19 and Table 4.7-5: The text discussion and Table 4.7-5 all reference "large **lot**" single-family units. This is incorrect. The factor from this survey of seven 4,000+ sq.ft.homes in Corte Madera that supposedly connects with the vehicle trip generation rate is the **Size of the Home**, <u>not</u> the size of the lot. Q-19

Page 4.7-19, 3rd full ¶: The assumption is used "that work-force households with more than one commuter would occupy much of the multifamily housing" and thus the multifamily units trip generation is calculated at the rate developed for cottage homes (7.18 daily trips). This assumption conflicts with the Project Description on page 2-15 that 40% to 50% of the multifamily units would be restricted for senior housing, (see Plan Land Use Standard 13) and as such, would most likely not have "more than one commuter". Q-20
Please respond to our questions:

(1) Is there any published evidence supporting the assumption of 18% greater number of trips for work force housing as compared to the trip rate typically used for multifamily housing? If so, please provide in the Appendices to allow public review.

(2) How can the conflicting descriptions – "work-force households" and "senior housing"- both, be true? Q-21

Page 4.7-25, Table 4.7-9: For King Street/Magnolia Avenue, is it correct that intersection volume is less when Cumulative traffic is added to Existing plus Specific Plan? Q-22

Pages 4.7-28 through –31, Impact 4.7-4: This section first quotes policies in the Specific Plan which limit vehicle access to Subarea 3, which include Transportation Policy 18. The impact analysis on page 4.7-30 explicitly states "the internal roadway system would not provide a vehicle connection between Doherty Drive and East Ward Street". The analysis goes on (at the top of page 4.7-31) to explain why such a through connection would result in unacceptable service levels at the East Ward /Magnolia intersection. The Revised DEIR concludes that since no such through connections are in the Specific Plan, "no mitigation measures are proposed".

This impact conclusion is incorrect. The conclusion ignores the fact that Option #4 and Option #5 of Transportation Policy 18 each include a through vehicle connection between Doherty Drive and East Ward Street. Based on the given impact analysis, the Revised DEIR should conclude that with Options #4 and #5- Transportation Policy 18 could result in a potential significant impact. In the Project-Level Mitigation Measures section (Page 4.7-41), a mitigation like the following should be added:

"Impact 4.7-4 Mitigation: Q-23
Unacceptable Level of Service resulting from a through connection between Ward Street and Doherty Drive.

Delete Options #4 and #5 of Policy 18 which would allow a through connection between Doherty Drive and Ward Street."

If Options#4 and #5 of Transportation Policy 18 are not deleted, a full analysis of the traffic impacts of a through connection between Doherty and Ward must be provided in the Final EIR. If impacts of traffic from a through connection cannot be mitigated to a level of insignificance, a statement of overriding considerations should be added.

Page 4.7-29, Policy 18: When adopted, the Specific Plan serves as the Preliminary Development Plan for Subarea 3. Accordingly, the selection of one of the three remaining options under Policy 18 (#s 1 through 3) for vehicular ingress or egress from Ward Street to Subarea 3 must be made by the Planning Commission before the Specific Plan is adopted.

Page 4.7-31, Impact 4.7-5 -Larkspur Creek Pathway: The final sentence of this paragraph is incorrect and should be deleted. The bikeway-footpath is to be located on the **eastern** side of the creek. (See Specific Plan Transportation Policy 21 and Standards 11 and 12). Specific Plan Figure 5-1 is somewhat misleading. Q-24

Page 4.7-43, Mitigation for Impact 4.7-9: How does removing parking spaces south of East Ward Street make room for a left-hand turn lane at King Street? Q-25

4.10. Visual Quality and Aesthetics

Page 4.10-7, Impact 4.10-2, Policy 9 Creek Resources: Mitigation for Impact 4.5-2 adds a new policy to the Specific Plan that prohibits passive use of the Larkspur Creek buffer area (See Revised DEIR page 4.5-21). A reference to this change should be added here. Q-26

4.11 Historical, Cultural and Archaeological Resources

Page 4.11-5, 1st ¶: Please note that property owner and developers will follow the testing schedule set forth in the Mitigations in the Revised DEIR instead of as in this paragraph. This paragraph should conform to those mitigations. Q-27

Page 4.11-10 and –11, Mitigation for Impact 4.11-2a,b: Add a statement that the impact would remain significant and unavoidable, as stated on page 5-3 of the Revised DEIR. Q-28

4.12 Hazards and Hazardous Materials

Page 4.12-22 and -23, Mitigation for Impact 4.12-1a,b: Since the heading "MTBE and Hydrocarbons in Groundwater at Larkspur Service Station Site" may not transfer to the new policies under (a) and (b) when they are put into the Specific Plan, we suggest the wording in each policy be revised to: **"construction work undertaken at the Larkspur Service Station Site"** instead of "in the Specific Plan area". Q-29

Page 4.12-24, Mitigation for Impact 4.12-2- "Demolition Plan New Policy", 1st ¶: This policy mixes several items that are the obligation of DTSC, the property developer, and the City. This section should be revised as to the Demolition Plan, as follows:

> **"All demolition activities on Subarea 3 shall be as set forth in a Demolition Plan for safe demolition of existing structures. This Demolition Plan shall reference and include, by this reference, all provisions of the Removal Action Work Plan and Health and Safety Plan for Subarea 3 as approved by DTSC. The City shall review and approve any provisions of the Demolition Plan which are not within the jurisdiction of DTSC."** Q-30

Page 4.12-25, Mitigation for Impact 4.12-3: The fourth sentence should be corrected, as stated in the RAW:

> **"As set forth in the Removal Action Workplan, approved by DTSC, clean fill may be placed over select areas across Subarea 3. The presence of clean fill would further reduce the potential for exposure of people to residual soil contamination."** Q-31

Page 4.12-25, Mitigation for Impact 4.12-4: The developer, not the City, implements the RAW. Correct this mitigation statement as follows:

> **"As authorized by the approved Removal Action Workplan, the developers of Subarea 3 shall implement the Removal Action Workplan and Health and Safety Plan under the jurisdiction of DTSC."** Q-32

Page 4.12-26, Mitigation for Impact 4.12-6, New Policy : The final sentence of this paragraph is incorrect. As stated in our previous corrections to the chapter:

> **"DTSC and the City have jurisdiction over separate parts of the Demolition Plan and DTSC, only, has jurisdiction over the Removal Action Work Plan. These plans will include approved routes, truck cleaning & inspection and contingencies for spills and accidents."** Q-33

6. *Alternatives*

Page 6-11, Low Density Alternative: There is no 10,000 sq. ft. "community center" use in the Plan. If such a use is included as part of the Low Density Alternative then a complete analysis of each of the chapters of the Revised DEIR should be provided in the Alternatives chapter, including land use, traffic and circulation with parking, noise, visual quality, and historical. Additionally, an explanation should be given as to the feasibility of such a public use and the public funds that are expected to be available to make this a reasonable alternative. Q-34

Page 6-12, Low Density Alternative- Table 6-3: For Intersection number 6. Doherty Drive/Piper Park there is a footnote stating the assumption that traffic improvements would be constructed.

(1) Why should the traffic analysis assume that this intersection improvement would be implemented for the Low Density Alternative, since the reason given not to implement it in the Project is that traffic volume is too low? Why wouldn't the traffic volume be even lower under the Low Density Alternative? Q-35

(2) Doesn't this assumption skew the Alternatives comparison, with the No Project Alternative and the Project each assuming that the Doherty/Piper Park traffic improvement would not be constructed and the other two alternatives each assuming the opposite?

Page 6-17, Residential Focus Alternative- Traffic and Circulation: The first sentence refers to Table 6-1, but I cannot find either daily vehicle trips or AM peak hour trips in that Table. Also the PM peak hour trip total is 224 (not 237). Q-36

Page 6-25, Table 6-5 footnote *: In this footnote and several other times within the Alternatives discussion the Revised Draft EIR states that not providing housing is not an environmental impact. It would be more correct to also state:

"Although not an environmental impact under CEQA, new development is required to be consistent with the policies of the Housing Element of the General Plan addressing the City's obligation to meet its fair share of the regional housing need." Q-37

Sincerely,

CECILIA B. BRIDGES

cc: Larkspur Housing Partners
Christian Carrigan, Esq.

Q-1 The suggested additions are already included in the DEIR, with slightly revised wording in Chapter 2, Section 2.5.1, Page 2-19 for clarification purposes.

Q-2 The suggested change is incorporated in Chapter 3 of this document.

Page 2-1, Third Paragraph is revised as follows:

Elevations within the Specific Plan area range from 7 to 22 feet above sea level, and the Specific Plan area is relatively flat except for the area just east of Magnolia Avenue, where portions of the Specific Plan area drop 7 feet in elevation in a distance of about 100 feet. Larkspur Creek is subject to tidal action and freshwater surface runoff flows. The north-western portion of Subarea 3 of the Specific Plan area is subject to flooding as a result of backup into an existing concrete ditch during extreme high tides. Larkspur Creek is a tributary to Corte Madera Creek, located approximately 1 mile east-northeast of the Specific Plan area. The prevailing soil conditions consist of 5 to 7 feet of fill material underlain by Bay Mud.

Page 4.4-6 First Paragraph is revised as follows:

A small portion of the Specific Plan area, in and adjacent to the concrete drainage ditch located in the north-western ~~part of the site~~portion of Subarea 3 (Exhibit 4.4-2), appears to be subject to tidal flooding during extreme tide events. This flood hazard is not shown on the FIRM map (Exhibit 4.4-1), but is hypothesized based on the storm drainage configuration and observations of flooding at high tide by persons familiar with the Specific Plan area. The ditch was observed by PWA staff to drain to a culvert under Doherty Drive, which then appears to be routed to an ungated outfall into a tidal channel, which connects to Corte Madera Creek. A nursery employee stated that extremely high tides "back up" in the concrete ditch, causing local flooding. Winter storm runoff may also contribute (see below).

Q-3 The Specific Plan includes policies for very low-income households (Specific Plan Policy 29, Page 4-9). It is noted that the City's Housing Element is currently being updated to reflect policies for very low-income households.

Q-4 The commenter's suggested edits on Page 2-15 of the DEIR are incorporated in Chapter 3 of this document.

Page 2-15, Second and Third Paragraphs are revised as follows:

Specific Plan Land Use Policy 29 specifies that if the purchase of the affordable housing site, which may be made available for purchase by the developer of Subarea 3, is not completed within 16 months from recordation of the Final Map for Subarea 3, the site shall not thereafter be available for such purchase. In the event that the offer to

purchase property for an affordable multifamily housing project is not exercised, the Larkspur General Plan's policy requiring that at least 10% of the units be affordable would be implemented or, if applicable at the time, any new policy requirements of the update housing element.

If the multifamily housing site is developed as affordable housing, up to 85 residential units may be developed in Subarea 3. If the multifamily housing site is not purchased for affordable housing,~~If the offer to purchase is not exercised,~~ and the affordable multifamily housing project is not developed, up to 63 market-rate units may be built, of which a minimum of 30 units would be cottage homes. In addition, affordable units would also be required, equal to at least 10% (this percentage may be increased with the update of the City's Housing Element) of the market-rate units (0.10 X 63 = 7); it is the City's practice to round up). The maximum number of units that would be allowed if the affordable multifamily project is not developed is 70 units (63 + 7 = 70).

Q-5 Chapter 3 of this document includes revisions to the text on Page 2-16 of the DEIR to clarify that the City would be responsible for the improvements to Doherty Drive. The timing of these improvements would be determined by the City, as needed to provide pedestrian, bicycle, and vehicle safety, and achieve acceptable traffic operating conditions.

Page 2-16, Sixth Paragraph is revised as follows:

The circulation system for the Specific Plan area would be designed to facilitate traffic flow, improve safety, and incorporate a bikeway. The City has identified these improvements for consistency with the General Plan, and they are designed to implement General Plan policies. A full consistency analysis is contained in Appendix B-2. While developers of projects within the Specific Plan area would be responsible for the payment of traffic impact fees, the City would be responsible for implementing the following improvements to Doherty Drive (the developer could be allowed to construct the improvements in lieu of paying the fee) ~~would be improved as follows~~:

Q-6 The FEIR corrects the typographical error on DEIR Page 2-19.

Page 2-19, Second Bullet Point is revised as follows:

Rezone of Subarea 3 (from L-1, Light Industrial, to P-D, Planned Development District) with the Specific Plan as the Preliminary Development Plan

Q-7 The FEIR is revised as follows:

Page 2-20, First Paragraph is revised as follows:

Table 2-3 shows a rate for a larger-than-average single-family home (3,000-plus square feet), based on a trip generation survey conducted by Wilbur Smith Associates, transportation consultants, in the city of Corte Madera in ~~May~~ June 2002 at Verona Place.

The survey found that the sample of 7 large homes, which are in excess of 4,000 square feet each, located on a cul-de-sac, generated peak-hour trips at an overall average rate that was 30% higher than the ITE published rate. This trip generation rate is recognized to be conservative in that it is unlikely that Subarea 3 would be able to accommodate 28 lots with 4,000-plus square feet homes because of Specific Plan restrictions (i.e., 40% FAR, 0.9-acre park). Furthermore, housing units expected to be developed in Subarea 3 would be located closer to stores, services, and other commercial development. However, this trip generation rate would result in the worst-case scenario and, for the purposes of environmental analysis, the worst-case scenario is appropriate for disclosure of environmental effects that may result from the implementation of the Specific Plan.

Q-8 The FEIR incorporates text changes to Page 2-20 to the 4,000-plus square-foot homes such as those used for the trip generation survey are unlikely to be developed in the Specific Plan area, but represent a worst-case scenario. Please refer to response to comment Q-7.

Q-9 The May 2003 memo describing the survey and field data sheets from June 2002 are provided in an appendix to this document.

Q-10 In response to suggested changes, the text on Page 4.1-8 of the DEIR is revised as follows:

Page 4.1-8, Last paragraph, last two sentences are revised as follows:

~~As a part of the approval process~~ Upon approval of the Specific Plan ~~for future planned development projects in Subarea 3~~, Subarea 3 would be rezoned from L-1 Light Industrial to Planned Development with the Specific Plan as the Preliminary Development Plan. The Planned Development zone would be consistent with the residential uses and the public park that the Specific Plan designated for Subarea 3.

Q-11 DEIR Page 4.1-9 states that there are two options for meeting the Larkspur Park Dedication Ordinance: "The Specific Plan recognizes the need for a park, which could be located onsite. Another option for future residential development projects in the Specific Plan area would be to contribute in-lieu fees to develop a park elsewhere in the city pursuant to the Park Dedication Ordinance. All residential developments would be required to pay Park Improvement Fees."

For implementation of the Specific Plan, the City proposes that future development meet the Park Dedication Ordinance for Subarea 3 by dedicating land for a local park within Subarea 3. This option, which requires the developer to dedicate land for a local park sufficient in size to serve the present and future needs of the residents in the subdivision and pay Park Improvement Fees, is consistent with Larkspur General Plan Goal 1, Policy a. As presented in Impact 4.1-1, the impact of amending the Land Use Chapter and the Community Facilities and Services Chapter of the Larkspur General

Plan to provide for a public park in Subarea 3 is considered less than significant, because dedicating a park is consistent with the goals and policies of the General Plan.

For implementation of the Specific Plan, the City proposes that future development meet the Park Dedication Ordinance requirement for the multifamily units in Subareas 1 and 2 by payment of in-lieu park fees rather than dedication of a park because these Subareas have limited space due to existing development and do not have adequate area for dedication of parkland. The City could choose to provide more parkland in Subarea 3 to provide the required parkland acreage for the population associated with the multifamily housing in Subareas 1 and 2. However, the Specific Plan proposes in Subarea 3 a park with just enough acreage to meet the demand generated by the 85 residential units designated by the Specific Plan for Subarea 3. Therefore, the payment of in-lieu fees for units in Subareas 1 and 2 would be required. The Specific Plan does not have policies or standards that require the park in Subarea 3 be enlarged to accommodate park demand generated by Subareas 1 and 2. The park dedication approach in the Specific Plan is consistent with the Larkspur Park Dedication Ordinance and the goals and policies of the General Plan, so this is considered a less-than-significant impact.

Q-12 The FEIR incorporates the commenter's recommended changes.

Page 4.1-12, Second Paragraph is revised as follows:

The Bicycle/Pedestrian Circulation Plan in the General Plan identifies bike routes in the city, including those within or adjacent to the Specific Plan boundary. The Specific Plan includes the provision of a Class I bike path in the former railroad right-of-way in Subarea 1. Also, a bikeway would be provided along the ~~west~~ east side of Larkspur Creek. While the Class 2 bike path proposed under the Specific Plan along Larkspur Plaza Drive and the Class 1 paths proposed on the south side of Doherty Drive and ~~west~~ east of Larkspur Creek are not identified in the Bicycle/Pedestrian Circulation Diagram (General Plan Figure 8-2), they are consistent with Policies a, d, e, k, and l in the Bicycle and Pedestrian Trails and Paths chapter of the General Plan. The proposed changes to Figure 8-2 would make the proposed bike paths fully consistent with the General Plan.

Q-13 The FEIR incorporates the suggested clarification to Mitigation Measure 4.3-3 (see page 4.3-18). The mitigation measure revision would specify that construction activities in the buffer area are allowed if and only if they are associated with water treatment and stormwater detention features (see Specific Plan Community Design Standard 73 and 74) or with the plant restoration plan (see Specific Plan Community Design Standard 75 and DEIR Mitigation Measure 4.5-2a), which are features of the Specific Plan that are designed and necessary to reduce impacts associated with soil erosion and other pollutants. The soil erosion that may be caused by these construction activities were considered in the DEIR and would be mitigated by other requirements of Mitigation Measure 4.3-3 (i.e., no construction during rainy season, silt fencing and

straw bales along Larkspur Creek). No new significant impact would result from this clarification to the mitigation measure.

Page 4.3-18, second bullet point in Mitigation Measure 4.3-3 is revised as follows:

- A vegetated buffer shall be protected during grading/earthmoving next to Larkspur Creek. This buffer shall be at least 50 feet wide from the top of the bank on the north/south reach of the creek at the eastern edge of the Specific Plan area, and at least 25 feet wide from the top of bank on the east/west reach of the creek at the southern edge of the Specific Plan area. The conditions of all development permits within Subarea 3 and all subsequent grading permits shall both specify that before the start of any grading, orange barrier fencing shall be installed at the outer edge of the protected buffer area. The fencing shall be maintained until all construction activities have ceased. No construction activity, including the storage of construction materials, or vehicles staging or maneuvering, shall be permitted in the buffer area~~.~~, except those activities to implement requirements of the San Francisco Bay Regional Water Quality Control Board for water treatment and stormwater detention facilities, such as grassy swales, and to implement the native plant restoration plan for upland habitat in the buffer area, as described in Mitigation Measures 4.5-2a and 4.5-2b of the DEIR.

Q-14 The comment identifies an editing error in Mitigation Measure 4.3-5a. The change to this mitigation measure will not result in a change to the post-mitigation impact conclusion.

Page 4.3-18 subparagraph (a) is revised as follows:

Damage to Underground Utilities Caused by Corrosive Soils.

(a) ~~Implement Mitigation Measure 4.3-4~~ Geotechnical Testing and Engineering Design Report that includes a Corrosive Soil Evaluation

The City shall include the following new policy in the Specific Plan:

The City ~~shall implement Mitigation Measure 4.3-4, Submit Geotechnical Testing and Engineering Design Report,~~ shall require the submittal of geotechnical testing and engineering design reports that include evaluation of corrosive soils. ~~to mitigate the potential for damage to underground utilities from corrosive soils.~~

Q-15 The comment identifies a typographical error. The reference to Mitigation Measure 4.4-3 is intended for and should be changed to refer to Mitigation Measure 4.3-3. This error on the AM peak hour traffic volume at the intersection of King Street and Magnolia Avenue does not affect the traffic impact analysis. Traffic impact analysis is based on the PM peak hour, which has a higher traffic volume and represents the worst-case traffic condition. The DEIR has been revised as follows:

Page 4.4-21, Mitigation Measure 4.4-6:

Implement Mitigation Measures ~~4.4-3~~ 4.3-3 and 4.4-5

The City shall include the following new policy in the Specific Plan.

New Policy: The City shall require implementation of Mitigation Measure ~~4.4-3~~ 4.3.3, Prepare and Implement SWPPP, and Mitigation Measure 4.4-5, Implement Groundwater Testing Program in Conjunction with Dewatering, for all development in the Specific Plan area in order to reduce the increase in pollutants conveyed to the groundwater table to a less than significant level and ensure that site dewatering for construction will not result in groundwater quality impacts.

Q-16 Mitigation for Impact 4.5-2a,b provides new policies to be included in the Specific Plan that protect and enhance the habitat on the banks of Larkspur Creek and in the buffer area. Although the new policies directly relate to the upland habitat along Larkspur Creek, the measures would reduce the Specific Plan impacts on the sensitive biological resources associated with Larkspur Creek, including degraded tidal marsh within the Specific Plan area and northern coastal salt marsh and coastal brackish marsh habitats located along the creek channel adjacent to (but not within the boundaries of) Specific Plan Subarea 3. Therefore, the impact and mitigation titles are appropriate.

Q-17 Consistent with CEQA, the adjusted trip generation rates represent a worst case condition for purposes of DEIR analysis. Adjusted trip generation rates will not be used by the City to calculate the TIF for projects in the Specific Plan area. When calculating project TIF, the standard rates applied to previous projects in the city will be used.

Q-18 The comment refers to data collection date of the large home trip generation survey. The collection dates of the surveys are as follows, Tuesday, May 7, 2002 and Wednesday, May 8, 2002. The survey was conducted during A.M. (7:00 - 9:00) and P.M. (4:00 - 6:00) weekday peak periods. The seven survey homes were located on a cul-de-sac. This location was identified having homes that are in excess of 3,000 square feet. All vehicles turning into and out of the cul-de-sac were recorded during the peak period. The peak hour was determined based on the four highest consecutive 15-minute increment volumes, and these counts were used to develop a large home trip rate based on the total number of residential units. This methodology is consistent with the approach found in the ITE manual. See also response to Comment Q-9.

Q-19 The FEIR includes the suggested change of the label applied to single-family homes that would be in excess of 3,000 square feet, as shown below:

Pages 4.7-18, Last Two Paragraphs, and 4.7-19, First Paragraph, and Table 4.7-5 are revised as follows:

Table 4.7-5 shows a summary of vehicle trip generation rates used in the assessment of the Specific Plan. The rates used are based on the ITE *Trip Generation*, 6th Edition (ITE

1997), and field surveys (May~~June~~ 2002) of large (~~4,000~~3,000-plus square feet) single-family homes. The ITE publication does not differentiate between large-sized ~~lot~~ and standard-sized ~~lot~~ single-family uses, nor does it provide trip generation rates for cottage and mixed-use residential land uses.

In order to gauge the potential traffic impact of the large-sized ~~lot~~ single-family homes (greater than 3,000 square feet) that are likely to be built where permitted due to market conditions, Wilbur Smith Associates conducted a 2-day field study of trip generation associated with single-family residential units that are 3,000 square feet or more (e.g., large homes in Corte Madera that are 4,000-plus square feet in size). The 7 study homes are located on a cul-de-sac, Verona Place, off Paradise Road east of U.S. 101. Vehicle trips traveling to and from the cul-de-sac were recorded on two consecutive weekdays during the 7:00 a.m. to 9:00 a.m. morning peak period and the 4:00 p.m. to 6:00 p.m. evening peak period.

Table 4.7-5
Summary of Specific Plan Vehicle Trip Rates

Land Use	Vehicle Trip Generation Rates		
	A.M. Peak Hour	P.M. Peak Hour	Daily
Large-sized ~~lot~~ Single-Family (unit)	1.10	1.52	14.3
Single-Family Homes (unit)	0.75	1.01	9.57
Multifamily Homes (unit)	0.56	0.76	7.18
Cottage Homes (unit)	0.56	0.76	7.18
Specialty Retail (1,000 SF)	1.03	2.59	40.67
Office (1,000 SF)	1.56	1.49	11.01
Hotel/Inn (room)	0.56	0.61	8.23
Community Center (1,000 SF)	1.32	1.75	22.88

Source: Institute of Transportation Engineers 1997, Wilbur Smith Associates Surveys (June 2002); Wilbur Smith Associates 2003.

Q-20 The ITE-based trip generation rate of 5.86 that would typically be used to assess multifamily residential units would be the Residential Townhouse (ITE Land Use Category 230). Instead, the Single-Family Detached Housing (ITE Land Use Category 210) rate, with a 25% downward adjustment, was used for the multifamily residential units in order to provide a worst-case analysis for the DEIR. The Specific Plan requires a minimum of 40% of the housing units in Subarea 3 to be set aside for households in which one or more persons is 62 years of age or older. This is not the typical senior housing assumed in the ITE rate, since only one of the residents must be a senior citizen. For this reason, the Senior Adult Housing - Attached (ITE Land Use Category 225) trip generation rate, which is is substantially lower than either the single-family detached, the residential townhouse or the adjusted single-family detached rate used in the DEIR, was not used.

The trip generation estimates developed in the DEIR for the residential land uses were based on standard ITE classifications that were adjusted upward. The adjustments were made based on concerns voiced by the CLASP Committee and others in public hearings. During the preparation of the first DEIR, there were concerns voiced that the traffic analysis should consider the full potential of possible impacts related to project vehicle generation. This concern was responded to with the adjustment of the residential trip generation rates. If the residential components of the Specific Plan were to be assessed using the standard ITE residential rates under conditions where attached and detached units were delineated and senior housing units were quantified, the project vehicle trip generation would be lower than that analyzed in the current DEIR.

Q-21 See response to comment Q-20.

Q-22 The comment identifies an error. This error on the AM peak hour traffic volume at the intersection of King Street and Magnolia Avenue does not affect the traffic impact analysis, which is based on the PM peak hour, which has a higher traffic volume and represents the worst-case traffic condition.

Page 4.7-25, Table 4.7-9 is revised as follows:

Table 4.7-9
Specific Plan Share of Existing and Future Peak Hour Intersection Volumes

Intersections	Existing Plus Specific Plan	Specific Plan Volume	Specific Plan Percent	Existing Plus Cumulative Plus Specific Plan	Specific Plan Percent
a.m. Peak Hour					
3. East Ward Street/Magnolia Avenue	1,412	105	7.4	1,707	6.2
4. King Street/Magnolia Avenue	~~1,445~~1,129	~~53~~43	~~3.7~~3.8	~~1,369~~1,359	~~3.9~~3.2
7. Doherty Drive/Riviera Circle	1,347	59	4.4	1,677	3.5
10. Fifer Avenue /Tamal Vista Boulevard	1,679	59	3.5	2,150	2.7
11. Wornum Drive /Tamal Vista Boulevard	1,206	21	1.7	1,623	1.3
5. Doherty Drive/Larkspur Plaza	1,217	79	6.5	1,561	5.1
6. Doherty Drive/Piper Park	1,128	63	5.6	1,450	4.3
p.m. Peak Hour					
3. East Ward Street/Magnolia Avenue	1,714	223	13.0	1,995	11.2
4. King Street/Magnolia Avenue	1,181	79	6.7	1,397	5.7
7. Doherty Drive/Riviera Circle	1,584	99	6.3	1,822	5.4
10. Fifer Avenue /Tamal Vista Boulevard	1,745	99	5.7	2,115	4.7
11. Wornum Drive /Tamal Vista Boulevard	1,650	55	3.3	2,057	2.7
5. Doherty Drive/Larkspur Plaza	1,295	125	9.7	1,551	8.1
6. Doherty Drive/Piper Park	1,153	111	9.6	1,433	7.7

Source: Wilbur Smith Associates (2003)

Q-23 The DEIR analysis does not consider a connection through Subarea 3 that would allow vehicles to travel between East Ward Street and Doherty Drive other than emergency vehicle access. City staff is recommending deletion of Options 4 and 5, which would allow a through connection. The rationale for not recommending a connection through Subarea 3 was based primarily on safety concerns (vehicle pedestrian and bicycle conflicts); such a connection was considered to be counter to the concept of developing a site that would encourage alternative modes of travel over vehicle use. A key premise of the proposed project is that the Specific Plan area would be integrated with and linked to the downtown through pedestrian- and bicycle-friendly facilities. Included in the discussion of a through roadway connection was the concern that background commute period traffic on Magnolia Avenue and Doherty Drive may use a through connection as a by-pass route. Such activity would further compromise safety and would degrade the concept of a pedestrian- and bicycle-oriented connection to the downtown.

Options 4 and 5 of Transportation Policy 18 would allow some through connection between Doherty Drive and East Ward Street, but with features (e.g. one-way, traffic calming) that would discourage some use of the route as a major throughway. It is the City's intent to discourage through traffic in the Specific Plan area. If the City Council decides to approve Options 4 and 5 and if future development proposals would include Options 4 and/or 5, the City would prepare an addendum to the DEIR to include traffic analysis based on site-specific designs to determine the effectiveness of these features in deterring through traffic.

Q-24 Please see response to Comment Q-12.

Q-25 The comment refers to DEIR Page 4.7-43, in which the reference to King Street, should read East Ward Street.

Page 4.7-43, Mitigation Measure 4.7-9 is revised as follows:

Impact 4.7-9 mitigation

Unacceptable Cumulative Level of Service at East Ward Street/Magnolia Avenue Intersection.

Expand Mitigation Measure 4.7-2 to Add an Additional Northbound ~~Left~~Right Turn Lane at ~~King~~ East Ward Street/Magnolia Avenue.

A northbound ~~Left~~right-turn lane shall be created at this intersection with the removal of approximately two to three parking spaces from the east curb face of Magnolia Avenue located directly south of East Ward Street. Under Existing Plus Cumulative Plus Specific Plan conditions and upon completion of the proposed mitigation measure the intersection would operate acceptably at LOS C during the a.m. and p.m. peak hours. This mitigation would reduce the impacts to levels that are less than significant.

Q-26 Related changes to Specific Plan Policies 9 and 10 are proposed. The impact is less than significant under the current policies; the proposed revisions would provide even more protection. The following information has been added to DEIR Page 4.10-7:

Page 4.10-7, Fourth and Fifth Paragraphs are revised as follows:

Policy 9. Creek Resources. Protect and enhance the natural and scenic values of Larkspur Creek ~~and make the creekside corridor accessible for passive use by the entire community~~. (Require that permanent fencing be installed along the outside edge of the buffer to discourage people and their pets from entering the restored creekside habitat. Passive community use may instead be established near the Larkspur Creek corridor but not within the buffer area.)

Policy 10. Open Space Network. Integrate the area's major natural elements (the creek, creekside vegetation, and heritage trees) with a system of pedestrian and bicycle routes to define the entire area visually and tie the individual parcels together into a site-wide open space network. Prohibit pedestrian and bicycle paths from being located within the Larkspur Creek buffer and require that permanent fencing be installed along the outside edge of the buffer to discourage people and their pets from entering the restored creekside habitat. Pedestrian and bicycle routes may be established near the Larkspur Creek corridor but not within the buffer area.)

Q-27 The archaeological testing referred to in the first paragraph on Page 4.11-5 of the DEIR was anticipated to be completed by the time the FEIR is completed. However, this study has not been completed and is not expected to be conducted by the time the FEIR is completed. Archaeological testing, as set forth in Mitigation Measure 4.11-2a,b shall be completed before the beginning of construction and would have been applicable in any case. Therefore, the following text on page 4.11-5 of the DEIR is deleted:

Page 4.11-5, the last sentence in the first paragraph is deleted as follows:

~~More extensive testing, to be done by Holman & Associates at the request of the City, will take place before the Final EIR is completed to refine information regarding spatial extent, content, and NRHP or CRHR eligibility of the deposits.~~

Q-28 This conclusion is in Section 4.11 of the DEIR in the last paragraph on Page 4.11-12.

Q-29 The heading under Mitigation for Impact 4.12-1a,b, "MTBE and Hydrocarbons in Groundwater at Larkspur Service Station Site" is a cross-reference back to Impact 4.12-1. Impact 4.12-1 determined that MTBE contamination at the Larkspur Service Station is likely to have traveled to down gradient areas in Subarea 3 and potentially Subarea 1. Construction that occurs in areas with a shallow groundwater table (requiring dewatering) throughout the Specific Plan area could result in the exposure of construction workers or the public to groundwater containing MTBE. Therefore, the proposed new policies (see DEIR Pages 4.12-22 and 4.12-23) to mitigate Impact 4.12-1 to a less than significant level are applicable to the entire Specific Plan area, including the Larkspur Service Station Site (in Subarea 2). This ensures that proper measures would be taken during all construction activities, including remediation

activities, in the Specific Plan area in order to prevent construction workers and the public from coming into contact with MTBE.

Q-30 The commenter suggests additional language to clarify demolition requirements in the new policy to mitigate Impact 4.12-2. In response, the New Policy under Mitigation Measure 4.12-2 is revised.

Page 4.12-24, First Paragraph is revised as follows:

New Policy: Site surveys for the presence of potentially hazardous building materials shall be reviewed/performed, and a demolition plan for safe demolition of existing structures in Subarea 3 shall be proposed by the developer and incorporated into the project prior to the issuance of construction permits and implemented during construction activities. The demolition plan shall address protection of both onsite workers, offsite residents, and occupants in nearby schools from chemical and physical hazards. The demolition plan shall reference, and include by this reference, all provisions of the Removal Action Plan and Healthy and Safety Plan for Subarea 3 as approved by DTSC. The demolition plan shall be reviewed ~~and approved~~ by DTSC and the City. A demolition permit shall be obtained from the Bay Area Air Quality Management District (BAAQMD), which would review the demolition plan prior to issuance of a permit. All contaminated building materials shall be tested for contaminant concentrations and shall be disposed of at appropriate licensed landfill facilities. Before demolition, hazardous building materials such as peeling, chipping, and friable lead-based paint, window glazing, and building materials containing asbestos shall be removed in accordance with all applicable guidelines, laws, and ordinances. The Demolition Plan shall include a program of air monitoring for dust particulates and attached contaminants. Dust control and suspension of work during dry windy days shall be addressed in the Demolition Plan. Before a demolition permit is obtained from the BAAQMD, an asbestos demolition survey shall be conducted in accordance with the requirements of BAAQMD Regulation 11, Rule 2.

Q-31 The commenter suggests refining the language of the new policy proposed for mitigating Impact 4.12-3.

Page 4.12-25, Fourth Sentence of the New Policy under Mitigation Measure 4.12-3 is revised as follows:

In compliance with the RAW, approved by DTSC, ~~C~~clean fill shall also be placed over much of Subarea 3, further reducing the potential for exposure of people to residual soil contamination.

Q-32 The mitigation for Impact 4.12-4 is to implement Mitigation Measure 4.12-3, the title of which is "Implement Removal Action Workplan and Health and Safety Plan" (page 4.12-25). Mitigation Measure 4.12-3 requires that the City include a new policy in the Specific Plan that requires the RAW developed for Subarea 3, under the

oversight of DTSC, be incorporated into projects by the developer before issuance of construction permits and implemented during construction activities. The City's role in this mitigation is to adopt the proposed policy and ensure that future development projects comply with Specific Plan policies through the project approval and CEQA review processes as noted in the comment, project developers implement the RAW, including preparation of the detailed Health and Safety Plan. The existing text is appropriate, and no text change is necessary.

Q-33 The commenter recommends that Mitigation for Impact 4.12-6 be corrected to clarify the roles of DTSC and City in the Demolition Plan and the Removal Action Plan. The mitigation measure is also revised per comments submitted by DTSC. Also see response to Comment R-18.

Page 4.12-26, Last Sentence of the New Policy in Mitigation Measure 4.12-6 is revised as follows:

The developer shall prepare and submit t~~T~~hese plans, which ~~must~~ shall be approved by the City prior to the issuance of construction permits. ~~, shall address approved routes, truck cleaning and inspection, and contingencies for addressing spills and other accidents.~~ The details of approved truck routes, truck cleaning and inspection, and contingencies in case of spills or accidents shall be addressed in an Implementation Plan that is to be reviewed and approved by DTSC prior to remediation of Subarea 3. The Implementation Plan shall include a Health and Safety Plan, Transportation Plan and Contingency Plan in accordance with Title 8 of the California Code of Regulations section 5192, California Health Safety Code Section 25160 and Title 22 of the California Code of Regulations Section 66236 to assure that all remediation activities are protective of human health and the environment

Q-34 A community center would result in fewer traffic trips than a comparably sized retail development. As shown in DEIR Table 6-1, a 10,000 square-feet community center would generate 18 trips during the PM peak hour, compared to 26 trips that would be generated by a similarly sized, 9,200 square-feet retail development. Because a community center would result in fewer traffic trips it would also generate less severe air quality, noise, and other impacts than an equivalent area of retail use. Thus, impacts evaluated in the proposed project, as defined would be greater than an alternative that would include a community center. A community center would also be subject to the Specific Plan policies and standards, which are designed to ensure land use compatibility and preservation of the visual character. Therefore, for purposes of comparison, specific issue-by-issue analysis of a community center would not be necessary.

Specific funding sources for a community center have not been identified at this time; however, as stated on Page 8-10 of the Specific Plan, fund-raising programs have been used successfully by many communities to develop community centers. If the City chooses to adopt the Low Density Alternative with a community center, then the

Specific Plan will have to be modified, with further details regarding the funding source identified. For the purposes of environmental analysis of alternative land uses in accordance with CEQA, it is not necessary to provide further details regarding funding.

Q-35 Please refer to response to Comment L-18, including revisions to footnotes in Table 6-3.

Q-36 The comment identifies a text error.

Page 6-17, First Full Paragraph, First Sentence is revised as follows:

~~As indicated in Table 6-1, t~~The Residential Focus Alternative would generate an estimated 2,716 daily vehicle trips, with 158 in the a.m. peak hour and 224~~237~~ in the p.m. peak hour (see Table 6-1).

Q-37 The FEIR incorporates a modified form of the commenter's suggested text to Table 6-5 on Page 6-25 and to Page 3-8, as shown below:

Page 3-7, Last Paragraph (continues on page 3-8) is revised as follows:

When the No Project Alternative has been identified as the environmentally superior alternative, CEQA requires that an additional alternative be identified as the environmentally superior alternative in the absence of the No Project Alternative. Because the Low Density Alternative would result in reduced number and severity of impacts, it would be regarded as the environmentally superior alternative in the absence of the No Project Alternative. However, this alternative would make less of a contribution toward helping the City to meet its fair share of the regional housing need, as identified in the Housing Element of the General Plan, than would either the Proposed Project or the Residential Focus Alternative.

Page 6-25, Footnote of Table 6-5 is revised as follows:

LTS = Less than Significant Impact (no mitigation required)

PS/LTS = Less than Significant after Mitigation

SU = Significant and Unavoidable Impact (no mitigation available to reduce the impact to a less-than significant level)

* Although not an environmental impact, the No Project and Low Density Alternatives would contribute less to assisting the City in meeting its "fair share" of the regional housing need, as required by the Housing Element of the General Plan, and would not add to the supply of housing that might *be* available for those in the local work force.

** May be SU if City chooses not to install signal at Doherty Drive/Piper Park because of low traffic volumes.

*** May be SU if no improvements are implemented at Doherty Drive/Piper Park.

Terry Tamminen
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CalEPA

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Arnold Schwarzenegger
Governor

February 11, 2004

Mr. Bob Pendoley, Consulting Planner
City of Larkspur
400 Magnolia Avenue
Larkspur, California 94939

Dear Mr. Pendoley:

Thank you for the opportunity to comment on the revised draft Environmental Impact Report (draft EIR, SCH# 2001112092) for the Central Larkspur Specific Plan. As you may be aware, the Department of Toxic Substances Control (DTSC) is overseeing the cleanup of the Niven Nursery site (Site) under a Voluntary Cleanup Agreement with Larkspur Housing Partners, LLC. Cleanup activities at the Site are proposed in a draft Removal Action Workplan (RAW) approved by DTSC in March 2002. As part of the process of finalizing the RAW, DTSC must comply with the California Environmental Quality Act (CEQA), and intends to use the draft EIR for this purpose. We have reviewed the revised draft EIR and have the following comments regarding revisions or additions that are necessary to adequately address the potential impacts associated with cleanup of the Site. R-1

1. *Section 4.3.3, Pages 4.3-13 and 4.3-18, Soil Erosion During Construction Activities.* This subsection on page 4.3-13 that reads "Soil Erosion during Construction Activities" should read "Soil Erosion during Construction and Remedial Activities". The word "construction" should be replaced with "construction and remediation" where appropriate in this subsection. R-2

   Please insert the following statement in the discussion of mitigation measures for Impact 4.3-3: "Remedial activities in Subarea 3 are estimated to last for several weeks and are not expected to occur during the rainy season. Therefore there will be little to no potential for soil erosion during remediation of contaminated soils in Subarea 3. However, if required by the City of Larskpur, an Erosion Control Plan will be prepared and grading permit obtained for the remedial activities that DTSC will be overseeing in Subarea 3." R-3

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2. *Section 4.4, Hydrology and Water Quality, Impacts 4.4-4, 4.4-5, 4.4-6.*
   - Please reword the first sentence in the last paragraph on page 4.4-17 to read "Construction of future development projects and remedial activities within the Specific Plan area . . ." R-4
   - Please reword the second sentence in the last paragraph on page 4.4-19 to read "During construction and remediation, petroleum hydrocarbons from equipment operation . . ." and please reword the corresponding mitigation measure discussion on page 4.4-21 to read "and ensure that site dewatering for construction and remediation will not result in groundwater quality impacts". R-5
   - Please reword the first sentence in the second paragraph on page 4.4-19 under Impact 4.4-5 to read "Construction and Remediation period dewatering activities . . ." and please reword the corresponding mitigation measure discussion on page 4.4-21 to read "ensure that dewatering for construction and remediation will not result in salinity". R-6

3. *Section 4.6, Air Quality, Pages 4.6-11 and 4.6-15.* Dust control and monitoring need to be performed during Site remediation in addition to during construction. The subsection on page 4.6-11 that reads "Substantial Emission of Dust and Diesel during Construction" should read ". . .during Construction and Remediation" and should include a discussion that indicates that the potential for generation of contaminant-bearing dust exists as a result of remedial activities at the Site. R-7

   Please insert the following statement after the list of Best Management Practices on page 4.6-14 and 4.6-15: "The above-mentioned mitigation measures will also apply to remedial activities performed on Subarea 3. In addition to these mitigation measures, air monitoring will be performed during remedial activities. If deemed appropriate, air monitoring will be conducted through on-site use of direct-reading instruments and the collection of samples. Air monitoring procedures will be addressed in a Health and Safety Plan that will be reviewed and approved by DTSC." R-8

4. *Section 4.7, Traffic and Circulation.* Please relabel the subsection that reads "Construction-Related Traffic" on page 4.7-34 to read "Construction and Remediation-Related Traffic", and please insert the following into this subsection: "Site remediation will require the excavation and off-site disposal of approximately 900 cubic yards of contaminated soil. Clean fill will be brought to Subarea 3 to backfill excavation areas. An estimated 100 trucks will be needed to transport contaminated soil from and clean fill to Subarea 3. This will occur for a period of one to two weeks. In addition there will be traffic caused by workers and visitors travelling on-and off-site during remedial activities." R-9

Please insert the following into the discussion of mitigation measures for Construction and Remediation-Related Traffic on pages 4.7-42 and 4.7-43: "The routes to be used during transport of contaminated soil, the facility where contaminated soil is to be disposed, hours during which excavation will occur, traffic control and loading procedures, and contingencies in the case of spills or accidents will be addressed in an Implementation Plan that is to be reviewed and approved by DTSC. All transportation of contaminated soil during remediation activities will comply with California Health and Safety Code section 25160 and Title 22 of the California Code of Regulations section 66263 which establish standards for the safe transportation of hazardous waste." R-10

5. *Section 4.8, Noise.* Remediation at the Site would also create temporary sources of noise. Please relabel the subsection that reads "Increased Noise Levels during Construction" on page 4.8-13 to read "Increased Noise Levels during Construction and Remediation", and please reword language in the discussion of the impacts and mitigation measures related to noise (Pages 4.8-13 and 4.8-18) such that wherever the word "construction" is used, it should be replaced by "construction and remediation". R-11

6. *Section 4.11, Historical, Cultural, and Archaeological Resources.* Please note that archaeological resources and human remains may be discovered during excavation of contaminated soil at the Site. The revised draft EIR should specify that Impact 4.11-2 on page 4.11-8 and Mitigation Measure 4.11-5 (Possible Discovery of Human Remains) on pages 4.11-11 and 4.11-12 also apply to remedial activities at the Site in addition to future construction activities. Please reword language in the discussion in these subsections such that wherever the word "construction" is used, it should be replaced by "construction and remediation". R-12

7. *Section 4.12, Hazards and Hazardous Materials, Page 4.12-6.* The second paragraph on this page notes that "a preliminary draft of this Revised Draft EIR was reviewed by DTSC, and their comments were incorporated into the document." This statement is incorrect and should be deleted from the text. DTSC reviewed an administrative draft of the original draft EIR in June 2002 and provided comments at that time to Lamphier-Gregory, the consultants who prepared the original draft EIR. These comments were incorporated into the original draft EIR but were not fully incorporated into the revised draft EIR. Therefore this comment letter has been prepared to ensure that DTSC's comments are incorporated into the Final EIR. R-13

8. *Section 4.12, Hazards and Hazardous Materials, Page 4.12-12.* The bullet discussing Northwest Drainage Ditch Sediments at Niven Nursery R-14

notes that sediment samples were analyzed for arsenic, lead, mercury, chlorinated pesticides, and polychlorinated biphenyls (PCBs). Sediment samples from the Northwest Drainage Ditch were not analyzed for mercury or PCBs. Please make this correction. R-14 Cont'd

9. *Section 4.12, Impact 4.12-5, Pages 4.12-21 and 4.12-26.* Similar to comment #2 above, please include a reference to the fact that dewatering may be required during remedial activities as well as during construction. R-15

10. *Section 4.12, Hazards and Hazardous Materials, Page 4.12-24.* The first paragraph on this page notes that "the demolition plan shall be reviewed and approved by DTSC and the City". Although DTSC will review the demolition plan for Niven Nursery, DTSC approval will not be required for the demolition plan since the Bay Area Air Quality Management District will issue the demolition permit. Please revise this sentence and Table 1-1 on page 1-6 accordingly. R-16

11. *Section 4.12, Hazards and Hazardous Materials, Page 4.12-25.* The third sentence in subsection "Impact 4.12-3, Mitigation" states that "removal of contaminated soils . . . would reduce the cancer risk to less than 1 in 1 million". This contradicts the statement on page 4.12-16 that following remediation, DDT risk levels would be "slightly under 2 in 1 million". DTSC was unable to find any information in the Human Health Risk Assessment prepared for the Niven Nursery Site (Environ, 2002) discussing specific risk levels after remediation. Please indicate the source for the statement that "following remediation, DDT risk levels would be 'slightly under 2 in 1 million.' " R-17

12. *Section 4.12, Impact 4.12-6 Mitigation, Page 4.12-26.*
The details of approved truck routes, truck cleaning and inspection, and contingencies in case of spills or accidents will be addressed in an Implementation Plan that is to be reviewed and approved by DTSC prior to the remediation of Subarea 3. The Implementation Plan will include a Health and Safety Plan, Transportation Plan and Contingency Plan in accordance with Title 8 of the California Code of Regulations section 5192, California Health Safety Code section 25160 and Title 22 of the California Code of Regulations section 66263 to assure that all remediation activities are protective of human health and the environment. Please revise the last sentence in this subsection to indicate that these details will be provided in an Implementation Plan instead of the RAW. R-18

Please contact Homayune Atiqee of my staff at (510) 540-3838 if you have any questions or would like to schedule a meeting to discuss our comments. Thank you in advance for your cooperation in this matter.

Sincerely,

Mark Piros

Mark Piros
Unit Chief
Northern California - Coastal Cleanup Operations Branch

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R-1 Comment noted. Responses to specific comments submitted by the Department of Toxic Substances Control are provided in responses R-2 through R-18, below.

R-2 For the purposes of this EIR, construction activities include, but are not limited to, excavation, vegetation removal, demolition, grading, soil preparation as part of the site preparation, installation of public improvements and infrastructure, building construction, and landscaping. Soils-related aspects of hazardous materials remediation are an integral part of construction in this project and are included in this analysis of soil erosion during construction activities.

R-3 The suggested language would not preclude the City from requiring an Erosion Control Plan that addresses remediation activities and, thus, would not have an effect on coverage or implementation of the mitigation measure. Furthermore, the Erosion Control Plan must address construction activities outside the rainy season. The language is most appropriate for the impact discussion. As such, the FEIR includes an addition to the impact analysis for Impact 4.3 to communicate the commenter's suggestion.

Page 4.3-13 Last Paragraph is revised as follows:

The Specific Plan area is located on a flat, relatively level area with cohesive fill and native soils; as such, soil erosion occurs infrequently on most of the Specific Plan area. However, Larkspur Creek runs along the southern and eastern boundaries of the Specific Plan area, and erosion of soils during construction activities could potentially affect the creek in those areas. Soils loosened, exposed, and stored in piles during construction in the vicinity of Larkspur Creek could potentially become mobilized by stormwater during construction activities. Such uncontrolled soil erosion could potentially affect the creek by adding to its sediment load. Because Larkspur Creek is a tributary of Corte Madera Creek, the amount of sediment in Corte Madera Creek could also increase as a result. The potential for soil erosion would be reduced if construction and remediation activities occur outside the rainy season; however, storm events may occur year-round and, thus, soil erosion could occur anytime during the year. The City reviews certain types of projects, including those that may be constructed in the Specific Plan area, for compliance with the City's Grading Ordinance and the Subdivision Code (see Section 4.4, Hydrology and Water Quality, for additional information). In compliance with the federal Clean Water Act, (CWA) the City requires the submission of Stormwater Pollution Prevention Plan (SWPPP) for all construction activities involving more than 1 acre of land. The SWPPP, which must be prepared before the issuance of Building Permits and prior to the commencement of construction activities, will include specifications for best management practices (BMPs) that will be implemented during project construction to minimize runoff from the construction areas, including storage and maintenance areas and building materials handling areas.

The SWPPP requirement does not apply to construction projects involving less than 1 acre of land; as such, some construction activities in the Specific Plan area, particularly those occurring near Larkspur Creek, may result in an increase in sediment runoff into the creek. For this reason, potentially significant impacts related to soil erosion may result during future construction in the Specific Plan area.

R-4 DTSC requests that text on page 4.4-17 of the DEIR, in the discussion of Impact 4.4-4, be reworded to also refer to remedial activities. See response to Comment R-2. No text revision is necessary.

R-5 DTSC requests that text on DEIR Page 4.4-19 and 4.4-21, in the discussion of Impact 4.4-6 and its mitigation measure, be reworded to also refer to remedial activities. See response to Comment R-2. No text revision is necessary.

R-6 DTSC requests that text on page 4.4-19 and 4.4-21 of the DEIR, in the discussion of Impact 4.4-5 and its mitigation, be reworded to also refer to remedial activities. See response to Comment R-2. No text revision is necessary.

R-7 For the purposes of this EIR, remediation activities are considered a component of construction activities and are analyzed in the DEIR. The FEIR includes other recommended changes. To ensure this point is understood, however, the FEIR incorporates the changes to Impact 4.6-5.

Page 4.6-11, the first two full paragraphs are revised as follows:

Impact **4.6-5**

Substantial Emissions of Dust and Diesel Exhaust during Construction and Remediation. *Dust generated by construction equipment and vehicles could be substantial, and could contribute to ambient PM_{10}. Construction equipment could also emit substantial amounts of diesel exhaust, which has been identified as a TAC. This impact is considered* ***potentially significant****.*

Construction and grading can create substantial amounts of dust. Once existing buildings within the Specific Plan area have been demolished, dust generated by construction equipment and vehicles could be significant. Fugitive dust is emitted during grading, trenching, and paving, and from wind erosion of exposed earth surfaces. Dirt tracked out onto nearby paved roads can be re-entrained into the atmosphere by passing vehicles and contribute to ambient PM_{10}. In addition, contaminant-bearing dust may be generated during the site remediation phase of the construction activities.

Page 4.6-14 Third full paragraph is revised as follows:

Implementing fugitive dust control measures can greatly reduce adverse impacts. According to BAAQMD, estimating the amounts of construction dust from a particular project is at best imprecise. The air district prefers to evaluate construction dust

significance by project size and proximity to sensitive receptors. Potential adverse impacts then determine which control measures will be implemented. The Specific Plan area is near existing sensitive receptors (residences, schools) and the dust generated may contain contaminants. ~~would, t~~Thus, construction activities need the most stringent control measures recommended by the BAAQMD. These measures, stated below, would reduce construction dust to the maximum extent feasible (by 70% or more). Therefore, the construction contractor shall implement all of the following measures:

R-8 The FEIR incorporates the commenter's suggested revisions to Mitigation Measure 4.6-5a. It is noted that DTSC requires the preparation the Health and Safety Plan, the implementation of which will be required if the City adopts Mitigation Measure 4.12-3 in the DEIR.

Page 4.6-15 is revised as follows: Insert after item 11 of the numbered list:

12. Perform air monitoring during remediation activities. If deemed appropriate by the lead agency, DTSC, and/or BAAQMD conduct air monitoring through use of direct-reading instruments and collection of samples on the site. Prepare a Health and Safety Plan, which shall include air monitoring procedures. The Health and Safety Plan shall be reviewed and approved by the California Department of Toxic Substance Control.

R-9 The commenter provides details regarding remediation activities and suggests adding the word "remediation" to all references to construction in the DEIR. For the purposes of this EIR, remediation activities are considered a component of construction activities and are analyzed in the DEIR. To ensure this point is understood, however, the FEIR incorporates the following changes to Impact 4.7-7:

Page 4.7-34, Last Two Paragraphs are revised as follows:

Impact **4.7-7**

Construction-Related Traffic. *During the construction phase of future development projects, roadway closure and construction vehicle trips would potentially cause traffic interruption and may result in unsafe conditions for drivers, passengers, bikers, and pedestrians. While the City Code requires traffic control during construction activities it does not define the specific measures that would ensure human safety and convenience. This is a* ***potentially significant*** *impact.*

With the exception of remediation activities, s~~S~~pecific information on construction activities that may occur within the Specific Plan area is currently not available. Pursuant to RAW, site remediation would require the excavation and offsite disposal of approximately 900 cubic yards of contaminated soil. Clean fill would be brought to Subarea 3 to backfill excavation areas. An estimated 100 truck trips would be needed to transport contaminated soil from and clean fill to Subarea 3 over a period of one to two weeks. In addition, remediation activities would generate trips by workers and visitors. Other c~~C~~onstruction-related activities would typically occur Monday through Friday from 7:00 a.m. to 5:00 p.m. Specifications would include restrictions on noise and dust, and construction activities would be strictly monitored due to the proximity of schools

and businesses in the area. Construction staging and storage of equipment and materials would likely occur on the construction sites. It is not anticipated that any traffic lanes or sidewalks on either Magnolia Avenue or Doherty Drive would need to be closed during the construction duration. However, if construction activities were to result in the extended, temporary closure

R-10 The FEIR incorporates the recommended change.

Page 4.7-43, First Paragraph and Bullets immediately following are revised as follows:

New Policy: Construction contractor(s) in the Specific Plan area shall be required to prepare a detailed construction management plan(s) prior to beginning work within the Specific Plan area. The plans shall provide information related to duration of the construction, size of work force, average daily truck deliveries, proposed truck routes to and from the construction site, and hours/days of operation. For remediation activities only, the construction management plan, which may also a part of an Implementation Plan, shall be reviewed and approved by the California Department of Toxic Substances Control. For all construction activities, t~~T~~he construction management plans shall include traffic control measures specific to each construction site and vicinity; such measures may include the following:

- Preparation and filing of a detailed construction management plan by the contractor.
- Provision of on-site staging area for all equipment and material deliveries
- Provision of on-site parking for construction work force.
- To the extent possible, control of delivery truck activity to off-peak periods.
- Use of a flag person as needed during the heaviest construction periods.
- For remediation activities, provision of information regarding the routes to be used during transport of contaminated soil, the facility where contaminated soil is to be disposed, hours during which excavation will occur, traffic control and loading procedures, and contingency measures in the case of spills or accidents. All transportation of contaminated soil during remediation activities shall comply with California Health and Safety Code §25160 and Title 22 of the California Code of Regulations §66263, which establish standards for the safe transportation of hazardous waste.

R-11 The commenter suggests adding the word "remediation" to all references to construction in the subsection. See response to Comment R-2. No text change is necessary.

R-12 The impact analysis in Section 4.11 of the DEIR refers to both construction and remediation activities. See response to Comment R-2. No text change is necessary.

R-13 Comment noted. The following deletion has been made to the second paragraph on DEIR Page 4.12-6 of the DEIR:

Page 4.12-6 Second Paragraph is revised as follows:

Based on the review of the Health Based Risk Assessment, DTSC required that portions of the Niven Nursery site be remediated by the removal of contaminated soil to reduce the health risk to an acceptable level. A Removal Action Workplan (RAW) was then developed for the site (ENSR International 2002) to specify the areas requiring soil remediation and the extent of soil removal necessary. A RAW is a remedy selection document that can be prepared for a hazardous substance release pursuant to California Health and Safety Code §25356. It is prepared when a nonemergency action or remedial action is projected to cost less than $1 million. A draft of the RAW was submitted to DTSC for review and comment, and the document was updated with respect to the review. As part of the process of finalizing the RAW, DTSC must comply with CEQA, and intends to use this EIR for that purpose. ~~A preliminary draft of this Revised Draft EIR was reviewed by DTSC, and their comments were incorporated into the document~~. The various steps taken in the investigation, evaluation, and proposed remediation of the Niven Nursery site (Subarea 3) are described below under Environmental Site Investigations and Assessments.

R-14 According to EVIRON's Draft Health-Based Risk Assessment for Niven Nursery, Larkspur California (February 2002), ENVIRON collected five sediment samples and analyzed them for arsenic, lead, chlorinated pesticides, and PCBs (see the first full paragraph on Page 11 of the ENVIRON report). No edits to the DEIR are necessary.

R-15 Comment noted. The DEIR is revised accordingly.

Page 4.12-21, First Paragraph, First Sentence is revised as follows:

Shallow groundwater may be encountered in excavations for remedial activities and for utilities and foundations during construction in Subarea 3, necessitating dewatering.

R-16 Comment noted. The DEIR text is revised accordingly.

Page 4.12-24, First Paragraph and Third Sentence of the New Policy is revised as follows:

The demolition plan shall be reviewed ~~and approved~~ by DTSC and reviewed and approved by the City. A demolition permit also shall be obtained from the Bay Area Air Quality Management District (BAAQMD), which would review the demolition plan prior to issuance of a permit.

Page 1-6, Table 1-1, is revised as follows:

Table 1-1
Permits and Other Required Approvals that May Use This EIR to Implement the Project

Agency	Permit/Approval/Certification	Reason
City Council (Subsequent to review and recommendation by the Planning Commission)	Certification of the Final Central Larkspur Specific Plan EIR	To certify the Final EIR as adequate and complete review of the environmental effects of the Specific Plan.
	Approval of amendments to the General Plan and the Downtown Specific, adoption of the Central Larkspur Specific Plan, and rezoning of Subarea 3	To amend the General Plan to redesignate 16.8 acres from Low Density Residential to Low Density Residential and Parkland and revise the land Use Element and Circulation Plan, to amend the Downtown the Specific Plan to remove Subareas 1 and 2 from the Downtown Specific Plan boundaries, to adopt the Specific Plan, and to rezone Subarea 3 from L-1, Light Industrial, to P-D, Planned Development District with the Specific Plan as the Preliminary Development Plan.
City Council and Planning Commission	Certification and approval of project-specific environmental documents, as appropriate	To review project-specific elements.
	Planning approvals for individual development projects including rezone, design review, use permits, tentative and subdivision maps, historic preservation review, grading permits, and other entitlements as required by the Zoning and other City Ordinances	To ensure that subsequent development projects are reviewed by the City for their consistency with the Specific Plan.
City Department of Public Works and Engineering	Approval of stormwater drainage facilities	To ensure that development plans are in compliance with the City's storm drainage design standards.

Table 1-1 Permits and Other Required Approvals that May Use This EIR to Implement the Project		
Agency	**Permit/Approval/Certification**	**Reason**
	Approval of Erosion Control Plan	To control the potential for stormwater to erode soils and cause them to enter Larkspur Creek.
	Issuance of grading permit	To ensure that grading is conducted in compliance with the City's grading standards.
Heritage Preservation Committee	Historic preservation review	Advisory to City Planning Commission to ensure that development projects are reviewed for protection of historic resources.
State Water Resources Control Board	Storm Water Pollution Prevention Plan	Required for the discharge of stormwater from construction and developed areas that are 1 acre or larger.
California Environmental Protection Agency, Department of Toxic Substances Control	Demolition Plan approval	Required for the safe demolition of existing structures.
	Removal Action Workplan and Health and Safety Plan	Required to reduce the impact of contaminated soils.
Bay Area Air Quality Management District	Demolition Permit	Required to reduce emissions of air contaminants.

R-17 The source of the post-remediation cancer risk consists of calculations made by ENVIRON in 2002. The results of these calculations were incorporated in the DEIR, and are attached to a memorandum prepared by ENVIRON in 2004 to document these calculations. The memorandum is attached as an appendix to the FEIR. The memorandum includes a statement that the removal of contaminated soils would reduce the cancer risk associated with exposure to DDT to slightly under 2 in 1 million, as stated in DEIR Page 4.12-16. The memorandum also states that the risk to a person would likely be less than one in a million, based on the fact that DDT would be tightly bound to the soil and less readily absorbed than was assumed in the calculation. It is noted that both of these risk levels are considered low and are within USEPA's acceptable risk range; no additional mitigation beyond that identified would be required to reduce the impact to less than significant. To be consistent, the FEIR includes a revision to Mitigation Measure 4.12-3.

Page 4.12-25, Text Following the Third Bullet is revised as follows:

Impact 4.12-3 mitigation

Exposure to Hazardous Materials during Removal of Contaminated Soil.
Implement Removal Action Workplan and Health and Safety Plan.

The City shall include the following new policy in the Specific Plan.

New Policy: The RAW developed for Subarea 3, under the oversight of DTSC, shall be incorporated into the project prior to the issuance of construction permits and implemented during construction activities. The workplan includes provisions for safe removal, transportation, and disposal of selected contaminated soil from Subarea 3. Removal of contaminated soils from the areas identified would reduce the cancer risk to less than 2~~1~~ in 1 million. Clean fill shall also be placed over much of Subarea 3, further reducing the potential for exposure of people to residual soil contamination. A detailed Health and Safety Plan shall be prepared to address measures to protect workers and the community during remedial activities, and shall be reviewed and approved by DTSC.

R-18 The DEIR is revised accordingly.

Page 4.12-26, Mitigation Measure 4.12-6, Last Sentence of the New Policy is revised as follows:

These plans~~, which must~~ shall be approved by the City prior to the issuance of construction permits. ~~, shall address approved routes, truck cleaning and inspection, and contingencies for addressing spills and other accidents.~~ The details of approved truck routes, truck cleaning and inspection, and contingencies in case of spills or accidents shall be addressed in an Implementation Plan that is to be reviewed and approved by DTSC prior to remediation of Subarea 3. The Implementation Plan shall include a Health and Safety Plan, Transportation Plan and Contingency Plan in accordance with Title 8 of the California Code of Regulations section 5192, California Health Safety Code Section 25160 and Title 22 of the California Code of Regulations Section 66236 to assure that all remediation activities are protective of human health and the environment."

S

Aileen M. Donovan
67 Heather Way
Larkspur, CA 94939

February 11, 2004

Robert Pendoley, Project Manager
Planning Department
City of Larkspur
400 Magnolia Avenue
Larkspur, CA 94939

Re: Revised Draft EIR

Dear Mr. Pendoley:

Having reviewed the Revised Draft EIR, I urge City Council to heed the voice of Larkspur citizenry. Over and over, at meeting after meeting (as well as in writing), Larkspur citizens have consistently expressed the need to preserve the small town charm that residents and visitors alike find so appealing. S-1

The proposed High Density Plan with what amounts to a four story hotel, 87+ homes, et al, does not conform to anybody's notion of small town charm in central Larkspur. Moreover, Larkspur does not have the infrastructure to support this high level of density. S-2 Adoption of this plan would ensure environmental degradation downtown and have a severely negative impact on adjacent neighborhoods. S-3 I remain particularly disturbed by what purports to be "identified thresholds of significance" and those that "remain significant and unavoidable". S-4 Fraught as it is with subjectivity and loopholes, the mitigation measures segment of the DEIR is wide open to abuse and manipulation as well as misunderstanding and ongoing friction. One of the many benefits of the Lower Density Plan is that there would not be near as many measures to mitigate.

The adoption of the Lower Density Plan would satisfy the majority of Larkspur citizens because it is environmentally superior and does not overtax our already stressed infrastructure. S-5 To be sure we need to work together in pursuit of reasonable affordable housing alternatives. For example, there are probably at least 28 pockets of affordable housing already existent in Larkspur in the form of unofficial "in-law" units that could be designated "official". I endorse the Lower Density Plan and hope for an outcome that allows us to continue to take great pride in our town.

Respectfully,

Aileen M. Donovan

S-1 Comment noted. The comment relates to the Specific Plan itself and does not relate to environmental issues evaluated in the DEIR. No further response is necessary.

S-2 Infrastructure and services impacts are addressed in Sections 4.4, 4.7, and 4.9 of the DEIR. With the implementation of recommended mitigation measures, impacts to infrastructure and services would be less than significant.

S-3 Consistent with the objectives of CEQA, the City discloses the environmental effects of the Specific Plan, identifies avoidance and minimization measures, and provides alternatives and mitigation measures to prevent environmental damage in the DEIR. Because the comment does not raise specific environmental issues, no more specific response can be provided.

S-4 The thresholds of significance in the DEIR are based on the checklist provided in Appendix G of the CEQA Guidelines. These guidelines are the accepted standard in CEQA environmental review.

The comment does not specify which mitigation measures are of concern. The Mitigation, Monitoring and Reporting Program, which would be defined following the certification of the FEIR, would track the implementation of the mitigation measures identified in the DEIR that are adopted by the City. The program would identify who is responsible to implement the measures, the timeline for implementation, and how the measures will be implemented. As required by law, the City will enforce the implementation of the mitigation measures to minimize or avoid adverse environmental effects of the project.

S-5 Comment noted. The commenter suggests the adoption of the Lower Density Alternative.

Resubmitted

T

Charles G. Maltzahn
71 Riviera Circle
Larkspur. Ca 94939

February 11, 2004
~~August 27, 2002~~

Dear Mr. Pendoley,

Although the primary focus and information contained in this letter pertains to Doherty Drive and those of us directly impacted, my concerns include the Specific Plan area and the City of Larkspur. The cities character and quality of life must be maintained including a healthy environment with minimal impact. It is very important to mention the landowners especially the Niven family have a right to develop their land, but the impact of the development is the responsibility of the city and the developer. Unfortunately the EIR report is vague, misleading, and misrepresents the facts.
I am including a packet of information which has been submitted to the city on numerous occasions. It is very disturbing this information was not included in the EIR. T-1

The concerns are density of the development, traffic, acoustical engineering, geological engineering, structural engineering and safety. Safety includes neighborhoods and properties directly impacted, pedestrians, bicyclists, schools and all who use the city streets, especially Doherty Dr.
Where are the designs. studies and plans for Doherty Dr? T-2
It is reasonable to conclude the developer plans to use Doherty Dr as the primary access road to develop the property, and the City is funneling the traffic in the same direction. The increased impact will be substantial. Presently the combination of routine truck traffic and the increased construction traffic is greatly impacting our quality of life. T-3
Knowing the construction traffic was going to escalate in August the City should have informed the engineering company and conducted the study then. Why did that not occur?

The EIR report is not complete and does not address the negative impact. T-4
The statistical data is misleading and contradictory when compared to other substantiated data and personal observations. T-5
The report states "no significant impact". There is substantial information which refutes this statement. It has been my understanding an EIR is to objectively report all facts impacting the area and the City to protect our quality of life. It appears the objectivity of this report is non-existent. T-6
The following information including the packet will substantiate these statements as fact.

Goals of the EIR

"Maintain the integrity and character and quality of life". "Developer should contribute and pay for improvements to existing street systems, to mitigate unacceptable impacts where such improvements are appropriate. "Regard quality of life in larkspur as more important than mobility of traffic". T-7
"Ameliorate the impact of traffic on Larkspurs quality of life".

There are several inconsistencies in the EIR report. High density, 85 plus homes, is too much for the cities infrastructure and will deteriorate quality of life and contribute to increased expenses to an existing strapped city budget, as well as the maintenance of city streets and drainage. Increased exposure to traffic and noise is dangerous to all in the City of Larkspur and does nothing to enhance the quality of life. T-8

The word mitigate is used very loosely with out any substantive solution to the problem. A scale should be used to determine if the mitigation, in fact, is a significant and truly impactual solution. Mitigation needs to be quantified. T-9

I received a letter from Mr. Fred Svinth, A.I.A. senior consultant for Illingworth & Rodkin, Inc. (letter attached) in April of 2002 to perform a noise and vibration study on my property. As indicated in his letter "I&R has been authorized by Lamphier-Gregory re-measure ground-noise vibrations..." my initial contact with Mr. Svinth was by telephone. During the conversation Mr. Svinth indicated the two previous studies done by the city were not done correctly and the "data calculated improperly". He continued to explain the procedure would measure the vibrations (ground) including noise levels. I asked Mr. Svinth if he had received the packet from the city which would give him a history of the problem. His reply was "no". I sent him a packet. I asked Mr. Svinth if the other two property owners had been contacted. He said letters had been sent to them but no reply as yet. I expressed concern, because all three locations needed to be studied as was done previously. I told Mr. Svinth I would contact my neighbors and the study needed to be 24 hours at all three locations. I contacted Ms. Busse and Ms. Judd and neither of them was aware of the impending study but were very interested and wanted it done at their locations. After a couple of conversations, Mr. Svinth indicated the 24-hour study could only be completed at one location, not all three. I attended the planning commission and city council meetings expressing my concerns and the need for all three locations to be studied. The methodology is very important and necessary to be consistent with the previous study and a correlation could be completed with more accuracy. After speaking with Lamphier – Gregory, the company compiling the EIR for the city, indicated there were not enough funds to study all three locations for 24hrs and at the same time. 690 Riviera Cir/Judd residence 24hr, 71 Riviera Cir/Maltzahn residence 8-10 hrs and 76 Via La Brisa/Busse residence unknown time. These inconsistencies, explained by Mr. Svinth, were a result of budget and computer memory. Down loading and time on line to complete the report was short. I believe the equipment to complete the T-10

study simultaneously was not available, and the computers memory insufficant. Following the completion of the study I asked Mr. Svinth for a copy of the results. He said "you could not have a copy because you did not pay for it'. T-10 Cont'd

Observed methodology at 71 Riviera Cir.
No interviews with the occupants regarding their observations and perceived impacts of noise and vibrations and shaking of ground/house (floor) experienced past and present. A box (sensor) was placed on a 4x4 approx: 8 ft from the ground facing west toward the back of the yard. No instrument facing south which is the closest location to Doherty drive. The location facing west towards the back common fence included the neighbors yard and fence along the road. This placement was the furthest line from the road with the least possible impact. The more direct location is south with the road only 6ft from the side fence. The data receiver was located outside on a cement and wood landing. The digital portion was set on a small glass top patio side table on the landing. The readings from this unit were transmitted to I&R, Inc. office. Our periodic observations of the readings ranged from the 80's with many 101.0 plus. Mr. Svinth indicated although the equipment is present and recording information it would be shut off after 8 hrs, the levels above 65dbs would not be recorded, a maximum record shut off. The equipment was set up on a Wednesday between 11am and noon and removed on Thursday morning. No measuring device was located inside the house. The Wednesday measurement should have included all the loud noise from Redwood High School caused by a carpentry class that does not end until 8pm (long periods of numerous students hammering and power saws cutting wood). Holding a phone conversation while in the yard is difficult while this is going on. Mr. Svinth indicated he was only able to measure the noise at the Busse residence. Ms. Judd informed me Mr. Svinth had said her readings reached above 65dbs and several reached above 80dbs. T-11

Concerns pertaining to the methodology:
The location of the measuring device facing west where two 9 ft fences and a tool shed are located.
Placement of vibration device not consistent with previous two studies done by the city. The city test placed the device about 10 ft from the fence facing south towards Doherty Dr with wire sensors directed from the box into the ground. T-12
The study not reflecting the full impact because the study was conducted during a very quiet week and at low tide. Vibration impact was not as noticeable. T-13

The city's first study was for one full week at all three locations simultaneously. The second study was 1-2 days.

The results of the city's first study indicated peaks reached levels up to "deteriorating a historical building". The second study indicated improvement after work on bike path and resurfacing of the road with asphalt, but still noticeable. Why were these studies omitted? T-14

I&R, Inc. report the reading at .03 no impact. The vibrations that create rattling of the windows are a result of sound not the ground vibrations. Sound noise average is 56dbs. T-15

(with the fences). The 9-foot fence decreases the noise level, highest-level 57-58dbs. Salter Associates study 1991 average noise level was 61dbs. A fence will decrease noise however projected increase in traffic will increase noise. The highest noise level was 69dbs and projecting a semi-truck reach 80dbs.
Note: No mention of sound bouncing off the walls of Redwood H.S. increasing noise levels.

- The ground is filled land. Only average debacles and vibration levels are mentioned over 24hrs which does not reflect the impact. It is obtrusive and jolting.
- Does not explain noise and vibration measurements are like earthquake Measurements. As the number increases slightly the impact is doubled.
- Does not define noise, vibration as a result of noise and vibration-ground shaking.

Discussion:

The entirety of Doherty Dr is in the City of Larkspur's Specific Plan. Its boundaries are where Doherty meets Lucky Dr and continues west past Redwood High School and the Larkspur Marina "S" portion, past the baseball fields and Henry C. Hall grammar school and the Nevin property until it intersects with Magnolia Ave. The Larkspur (Greenbrae) Marina will "most definitely" be impacted by the trucks and heavy equipment used on Doherty Dr, including the increased volume of traffic created by the construction and the existence of a new development. T-16

History:

No original design or plans for Doherty Dr. No history of construction. It is constructed on an old creek especially the "S" portion and directly impacts the marina neighbors.

During the construction of Doherty Dr, the eastern portion by the Doherty Bridge fell into the creek after it was prepared for asphalt. They used rock from Hutchisons quarry to rebuild the road. They had to use bobcats because the large trucks were too heavy for the road. Information provided by Joe Monister who was in charge of the project. He and Warren Mistron were the two who were responsible for the Public Works Dept at that Time. (no engineering degrees). T-17

A 5 ton limitation sign was posted at the west end of the bridge informing easterly traffic, and a second sign posted for the westbound traffic near Lucky Dr at the city line with Corte Madera. Note: council member Joan Lubamersky and planning commissioner Helen Heitkemp remember the 5-ton limit but decline to affirm its existence publicly.

- The current engineer informed the City Council Doherty Dr is in bad shape especially the westbound lane. It is leaning toward the creek.

Geology:

Vibrations accelerating differential settlement on filled land. No soils reports, core samples, depth of bay mud to bedrock, stability, drainage, impact of liquification, which can be caused by trucks. (Kleinfelder & Associates report 2000). T-18
The road will continue to deteriorate because it is built on filled land. Continued use of truck compounds the problem. Resurfacing is only a band aid solution.

Structural Engineering:

Report on radius of road, width, line of sight, speed capabilities, and truck usage-stability T-19
See Civil Engineering report 2000. Trucks cannot navigate the "S" portion of Doherty Dr safely.

Acoustical Engineering:
Noise above standards, average 61dbs. Salter & Assoc 1991

I&R, Inc states the acceptable noise levels are 55dbs. They report at the development site the sound is 70dbs and recommends a 70 ft set back (including safety measures). The average setback is only 24 ft along Doherty Dr. This measurement is from the house to the curb.
Please note: Larkspur's recommended residential acceptable noise level is 55dbs outside and 45dbs inside. T-20
1991 Salter & Associates reports average sound level 61dbs and would be improved by a 9ft fence however trucks create 80dbs. A fence will not decrease the decibel levels to acceptable outdoor levels of 55dbs.
I&R, Inc states in the EIR report levels were measured inside the house but no comments of results. No instruments inside my house @ 71 Riviera Cr. Maybe the inside estimate levels are 55dbs.
Creekside housing development recommended 90ft setback including a burm and wall to decrease 70dbs. Set back includes safety measures. City of Larkspur study 1980's.
Note: I&R recommends the new house closest to Doherty Drive be equipped with a ventilation system in order to keep windows closed to comply with the noise ordinances.

Traffic Engineer:

Vehicle volume increased about 25% -1999-2000 City traffic study. Intersection grading T-21
and evaluation has become worse at King and Magnolia, Ward and Magnolia and West Riviera and Doherty Dr. No information pertaining to commute and Redwood H.S. traffic impact at Lucky Dr and Doherty Dr and East Riviera and Doherty.

Safety:

Safety to neighborhoods, pedestrians, bicyclists, schools, streets, bridges, need set backs, sound walls, protective barriers from the road as a life saving necessity. There is no T-22
mention of the above factors to protect those residents along Doherty Dr where there are no set backs from the road and limit truck traffic. See Penngrove, San Mateo and Los Gatos plan to decrease truck volume and improve town safety. Enforce speed limits,

Cars and trucks drive too fast. Ton limitation could be enforced by using the average gross weight of the vehicles. This information is easy to obtain. T-22 Cont'd

Air Quality: None-No Study done T-23

Solutions:

Solutions are obvious, decrease housing density to an acceptable level. Put back the 5 ton limitation to protect a very inferior and poorly designed and engineered roadway. Fix the road and construct a sound wall, which will act as a protective barrier. Decrease the speed limit to 15 mph because the line of sight (unobstructed) is less than 100ft. In the EIR report traffic on Sir Francis Drake and Bon Air Rd is to be decreased and impact lessoned by the development. There is no mention of decreasing traffic on Doherty Dr whichis deteriorated and structurally challenged as well. It appears the plan is to direct the construction traffic, onto Doherty Dr. Who is going to pay for the damage this will cause. The citizens of Larkspur will be stuck with the bill. T-24
The 1999 petition by the Greenbrae Marina 90% had concerns regarding truck traffic and traffic in general on Doherty Dr impacting the neighborhood and want the 5 ton limit sign back. This was submitted to the City Council. Why is this not in the EIR?

Soil Erosion and Flooding:

The new development will increase water run off including silt, which will be deposited into Larkspur Creek. The added volume of water and increased silt buildup will compromise water flow to the Corte Madera Creek and create flooding. A silt basin is needed and dredging. It is not just the responsibility of the Marina, but all of Larkspur, because drainage of water and silt is a result of those who use and benefit from the system. This includes neighborhoods, schools and business-The City
Obviously Doherty Drive is a financial and political "Hot Potato". T-25
We did not create this monster. Doherty Drive does not have the capability to be the primary "gateway" to downtown Larkspur. It was not designed for that function. If it were, these problems would not exist and this information would not be necessary. I am concerned and disturbed the "watermelon seed effect" is directed to us, and the political arena is the primary factor these problems have not been resolved and a solution implemented.
It is time to set the record straight and solve this problem. Larkspur will be better for it. Larkspur is small, quaint and beautiful. It should stay that way.

Sincerely yours;

Charles G. Maltzahn

cc: ~~Planning Commission~~
Planning Department
~~City Council~~

LEONARD A. RIFKIND
ALSO LICENSED IN NEVADA

RIFKIND LAW FIRM

REAL ESTATE
BUSINESS

May 17, 2000

VIA HAND DELIVERY

Mayor Joan Lubamersky
Members of the City Council
City of Larkspur
400 Magnolia Avenue
Larkspur, CA 94939

Re: Weight Limitation for Doherty Drive

Dear Mayor Lubamersky and Members of the City Council:

This letter will follow up my correspondence dated May 15, 2000 regarding Doherty Drive. Enclosed please find a letter dated May 16, 2000 from Ray Wrysinski, Civil Engineer, who has inspected the S curves area of Doherty Drive and concluded that the road design is insufficient for the current speed limit of 25 mph. Specifically for a design speed of 25 mph the radius must be at least 230 feet. The Westbound travel lane has only a 190 foot radius. In addition, the westbound land has a "negative superelevation", meaning it is canted the opposite direction of the curve, making driving conditions more hazardous. Mr. Wrysinki concludes that the "section of road . . . would require a lot of design study to determine how to bring it up to a 25 miles per hour design speed standard for cars and trucks."

Also enclosed is a letter dated May 16, 2000 from Lyle E. Lewis, Principal Engineer with the firm of Kleinfelder. Mr. Lewis concludes that the amount of compacted fill below the road bed surface is inadequate and as a result creates significant vibration from moving loads such as trucks. He further has determined the pavement thickness is inadequate. Finally, Mr. Lewis recommends that "if funds are not available to rebuild the pavement, heavy trucks should not be allowed on Doherty Drive.

Respectfully submitted,

RIFKIND LAW FIRM

Leonard A. Rifkind

LAR/es
cc: City of Larkspur Staff, via facsimile, 415.927.5022
Clients
051700 letter to City Council.doc

KLEINFELDER
An employee owned company

May 16, 2000
File: 41-7582-01

Mr. Chuck Maltzahn
71 Riviera Circle
Larkspur, California 94939

Subject: **Geotechnical Consultation**
Condition of Doherty Drive
Between Ends of Riviera Circle
Larkspur, California

Dear Mr. Maltzahn,

This letter presents the results of our geotechnical consultation regarding the condition of Doherty Drive between the ends of Riviera Circle in Larkspur, California. We made a site visit on May 15, 2000, to observe the condition of the pavement.

The Doherty Drive pavement is constructed on fill over bay mud. The bay mud a short distance below the surface is moderately soft to very soft. The amount of dry compacted fill above the bay mud surface determines how much the surface of the fill deflects and how much vibration results under moving loads such as trucks and buses.

The area of study is low lying and appears to only contain a few feet of fill over the bay mud. The lower part of the fill usually is not well compacted which leaves very little properly compacted fill under Doherty Drive. To compensate for a relatively thin compacted fill cover, the road section should be relatively thick.

The pavement in the study area exhibits various signs of failure. This includes moderate to severe cracking of the pavement surface with rutting in several areas. The pavement within the study area has been patched in several areas. Many of these patched areas already show new stress cracking. In addition, there are numerous longitudinal and transverse cracks in the roadway. The condition of the west bound lane appears to be considerably worse than the east bound lane. Pounded water was noticed in the gutter of the west bound lane. Ponded water can worsen the condition of an already poor pavement.

Based on the observed condition of Doherty Drive between the ends of Riviera Circle, it appears that the pavement thickness was not sufficiently thick to compensate for the conditions underlying the pavement and the volume of truck and bus traffic. To mitigate the condition of the pavement will require that the pavement section be reconstructed to be thicker.

If funds are not available to rebuild the pavement, heavy trucks should not be allowed on the part of Doherty Drive studied. This will greatly reduce the rate of degradation of the existing pavement.

Services performed by Kleinfelder, Inc. have been conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the profession practicing in the same locality under similar conditions at the time the services were provided. No other representation, expressed or implied, and no warranty or guarantee is included or intended in this letter or in any opinion, document or otherwise.

Yours truly,

KLEINFELDER, INC.

Lyle E. Lewis

Lyle E. Lewis
Principal Engineer

REGISTERED PROFESSIONAL ENGINEER
LYLE E. LEWIS
GE523
Exp. 06/30/01
GEOTECHNICAL
STATE OF CALIFORNIA

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May 16, 2000
File: 152-01-00

Mr. Chuck Maltzan
71 Riviera Circle
Larkspur, CA 94939

Dear Chuck:

After our meeting yesterday, you asked that I provide a record of some of the roadway engineering design criteria we discussed related to Lucky Drive and Doherty Drive in Larkspur.

The locations we reviewed are the two intersections of Doherty at Riviera Circle and Riviera Circle at Lucky Drive. You acquired copies of Greenbrae Marina Subdivision Number One and Number Three maps which provide some curve radius information.

At Riviera Circle at Doherty Drive, westerly intersection, on the northeast side of the intersection, a 200 foot outside radius is shown on the right of way. This would make the westbound road travel-lane about a 190 foot radius and the eastbound road travel-lane about a 180 foot radius. The street has a crowned section so the westbound lane has a negative superelevation. Using an estimated roadway pavement cross slope of 2% and the State Highway Design Manual figure 203.2, the design speed of the 190' (58m) radius curve is about 21 miles per hour and the 180' radius is about 23 miles per hour. Normally public streets are designed for a minimum speed of 25 miles per hour.

Roadway design must also satisfy stopping site distance criteria. For 25 mph (40 km/h) a driver should be able to see obstructions in the travel-way at least 164 feet (50m) beyond the vehicle.

For short radius curves, the Highway Design Manual provides lane widening criteria for long trucks because as they turn the wheels do not all follow the same path and they sweep out a width wider than the measured width of the truck. Manual table 504.3 shows a 4.5m (14.8') wide lane for a 55m (180') radius. As curve radii decrease, trucks require increasingly wider travel lanes. A typical road travel lane is 12' (3.6m) wide.

The easterly Doherty - Riviera intersection area radius is unknown. The Lucky Drive - Riviera intersection, west bound, has an inside of curve right of way radius of 72 feet. This small radius would require very low speed for vehicles and a very wide lane for long trucks.

The section of road described above would require a lot of design study to determine how to bring it up to a 25 mile per hour design speed standard for cars and trucks.

Sincerely,

Ray Wrysinski

Ray Wrysinski
R.C.E. 23518, expires 12/31/01

REGISTERED PROFESSIONAL ENGINEER
RAY C. WRYSINSKI
No. 23518
CIVIL
STATE OF CALIFORNIA

single factor. Topography controls both curve radius and design speed to a large extent. The design speed, in turn, controls sight distance, but sight distance must be considered concurrently with topography because it often demands a larger radius than the design speed. All these factors must be balanced to produce an alignment which optimizes the achievement of various objectives such as safety, cost, harmony with the natural contour of the land, and at the same time adequate for the design classification of the highway.

Horizontal alignment shall provide at least the minimum stopping sight distance for the chosen design speed at all points on the highway, as given in Table 201.1 and explained in Index 201.3. See Index 101.1 for technical reductions in design speed.

203.2 Standards for Curvature

Following is a table which gives the minimum radius of curve for specific design speeds. This table is based upon speed alone; it ignores the sight distance factor. If the minimum radius indicated in Table 203.2 does not provide the desired lateral clearance to an obstruction, Figure 201.6 should govern.

1 km/h = .911 ft/sec. 1.0 MPH = 1.467 ft/sec

Table 203.2

Standards for Curve Radius

Design Speed km/h	Minimum Radius of Curve (m)
30 = 18.63 MPH	40 = 131 ft.
40 = 24.84 MPH	70 = 230'
50 = 31.05 MPH	100 = 328'
60 = 37.	150 490'
70	200
80	260
90	320
100	400
110	600
120	900
130	1200

Every effort should be made to exceed minimum values, and such minimum radii should be used only when the cost or other adverse effects of realizing a higher standard are inconsistent with the benefits. As an aid to designers, Figure 203.2 displays the comfortable speed for various curve radii and superelevation rates.

The recommended minimum radii for freeways are 1500 m in rural areas and 900 m in urban areas.

If a glare screen or a median barrier is contemplated, either initially or ultimately, adjustments may be necessary to maintain the required sight distance on curves on divided highways. In such cases, a larger curve radius or a wider median may be required throughout the length of the curve. For design purposes, a planting screen is presumed to be 2.4 m wide. See Chapter 7 of the Traffic Manual for glare screen criteria.

203.3 Alignment Consistency

Sudden reductions in alignment standards should be avoided. Where physical restrictions on curve radius cannot be overcome and it becomes necessary to introduce curvature of lower standard than the design speed for the project, the design speed between successive curves should change not more than 15 km/h. Introduction of curves with lower design speeds should be avoided at the end of long tangents, steep downgrades, or at other locations where high approach speeds may be anticipated.

203.4 Curve Length and Central Angle

The minimum curve length for central angles less than 10 degrees should be 240 m to avoid the appearance of a kink. For central angles smaller than 30 minutes, no curve is required. Above a 6000 m radius, a parabolic curve may be used. In no event should sight distance or other safety considerations be sacrificed to meet the above requirements.

On 2-lane roads a curve should not exceed a length of 800 m and should be no shorter than 150 m.

203.5 Compound Curves

Compound curves should be avoided, except in mountainous terrain or other situations where

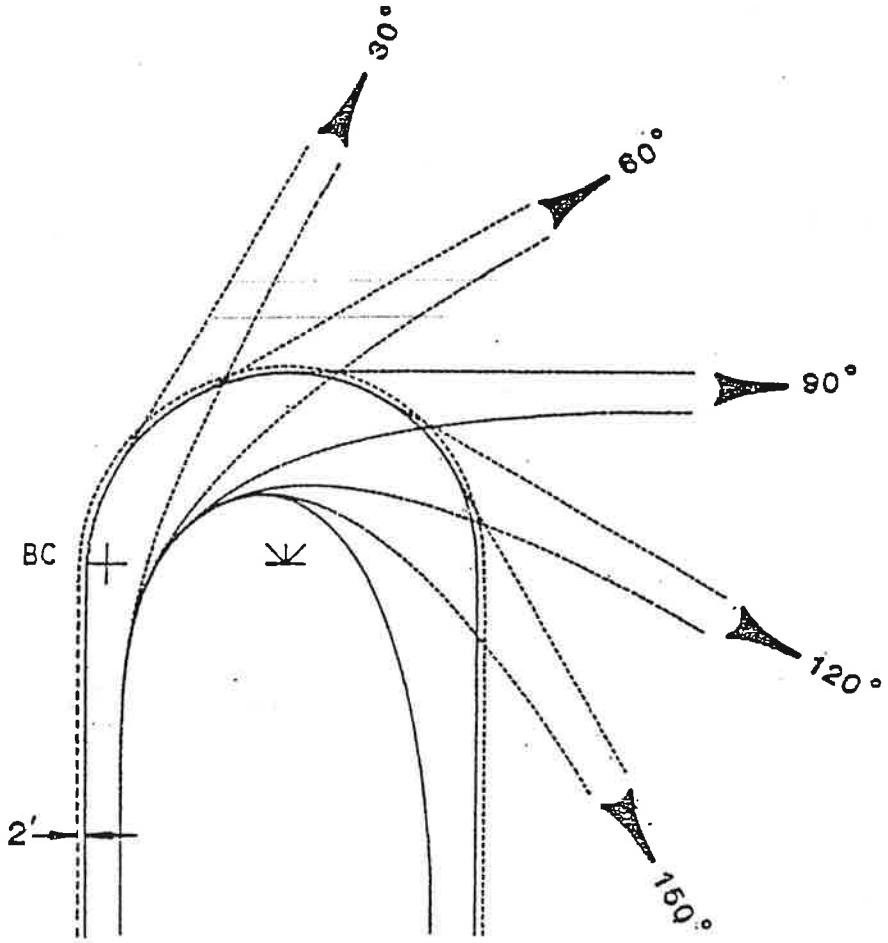
Design Speed (mph)	Maximum e	Maximum f	Total (e+f)	Maximum Degree of Curve	Rounded Maximum Degree of Curve	Maximum[a] Radius (ft)
20	.04	.17	.21	44.97	45.0	127
30	.04	.16	.20	19.04	19.0	302
40	.04	.15	.19	10.17	10.0	573
50	.04	.14	.18	6.17	6.0	955
55	.04	.13	.17	4.83	4.75	1,186
60	.04	.12	.16	3.81	3.75	1,528
20	.06	.17	.23	49.25	49.25	116
30	.06	.16	.22	20.94	21.0	273
40	.06	.15	.21	11.24	11.25	509
50	.06	.14	.20	6.85	6.75	849
55	.06	.13	.19	5.40	5.5	1,061
60	.06	.12	.18	4.28	4.25	1,348
65	.06	.11	.17	3.45	3.5	1,637
70	.06	.10	.16	2.80	2.75	2,083
20	.08	.17	.25	53.54	53.5	107
30	.08	.16	.24	22.84	22.75	252
40	.08	.15	.23	12.31	12.25	468
50	.08	.14	.22	7.54	7.5	764
55	.08	.13	.21	5.97	6.0	960
60	.08	.12	.20	4.76	4.75	1,206
65	.08	.11	.19	3.85	3.75	1,528
70	.08	.10	.18	3.15	3.0	1,910
20	.10	.17	.27	57.82	58.0	99
30	.10	.16	.26	24.75	24.75	231
40	.10	.15	.25	13.38	13.25	432
50	.10	.14	.24	8.22	8.25	694
55	.10	.13	.23	6.53	6.5	877
60	.10	.12	.22	5.23	5.25	1,091
65	.10	.11	.21	4.26	4.25	1,348
70	.10	.10	.20	3.50	3.5	1,637
20	.12	.17	.29	62.10	62.0	92
30	.12	.16	.28	26.65	26.75	214
40	.12	.15	.27	14.46	14.5	395
50	.12	.14	.26	8.91	9.0	637
55	.12	.13	.25	7.10	7.0	807
60	.12	.12	.24	5.71	5.75	996
65	.12	.11	.23	4.66	4.75	1206
70	.12	.10	.22	3.85	3.75	1528

NOTE: In recognition of safety considerations, use of e_{max} = 0.04 should be limited to urban conditions.
[a]Calculated using rounded maximum degree of curve.

Table III-6. Maximum degree of curve and minimum radius determined for limiting values of e and f, rural highways and high-speed urban streets.

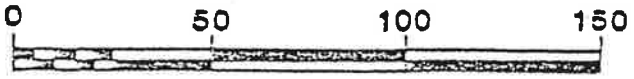
Figure 407A

STAA Semitrailer Wheel Tracks
50 Ft Radius



STAA TRUCK
SEMITRAILER WHEEL TRACKS

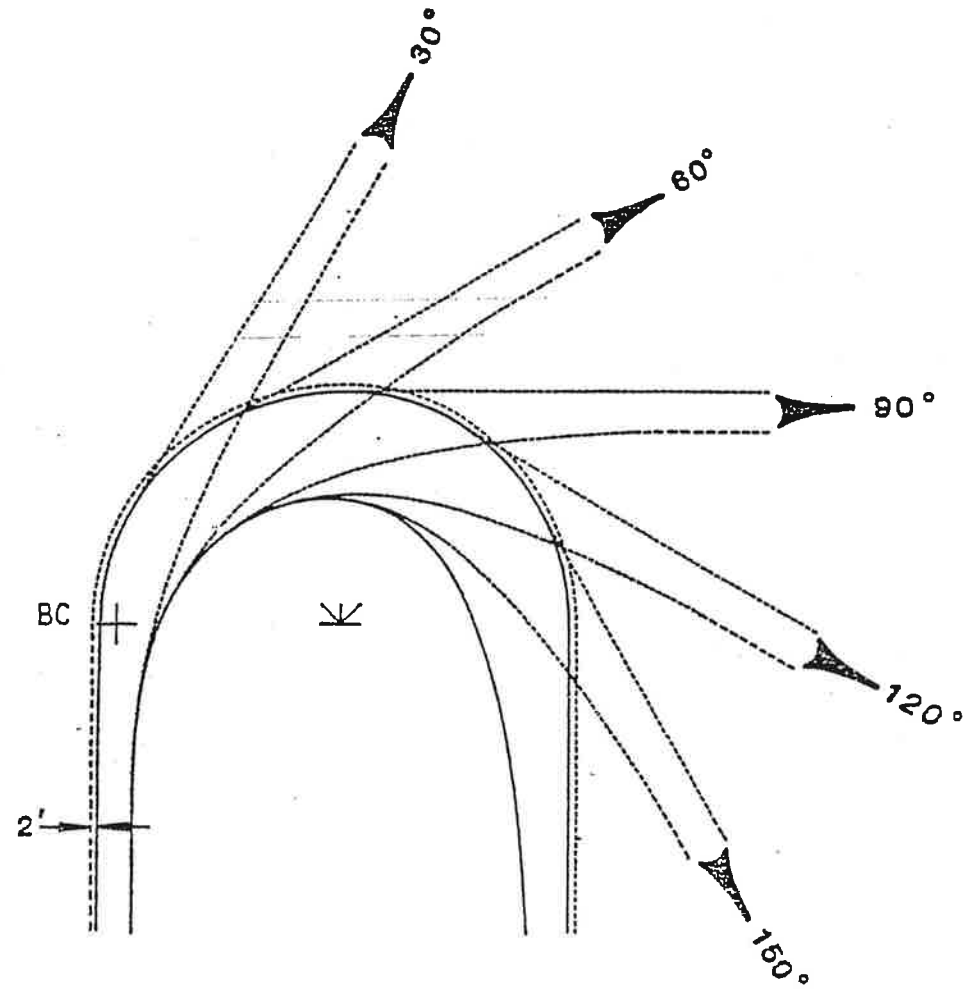
SCALE IN FEET



50' TURNING RADIUS

Figure 407B

STAA Semitrailer Wheel Tracks
60 Ft Radius

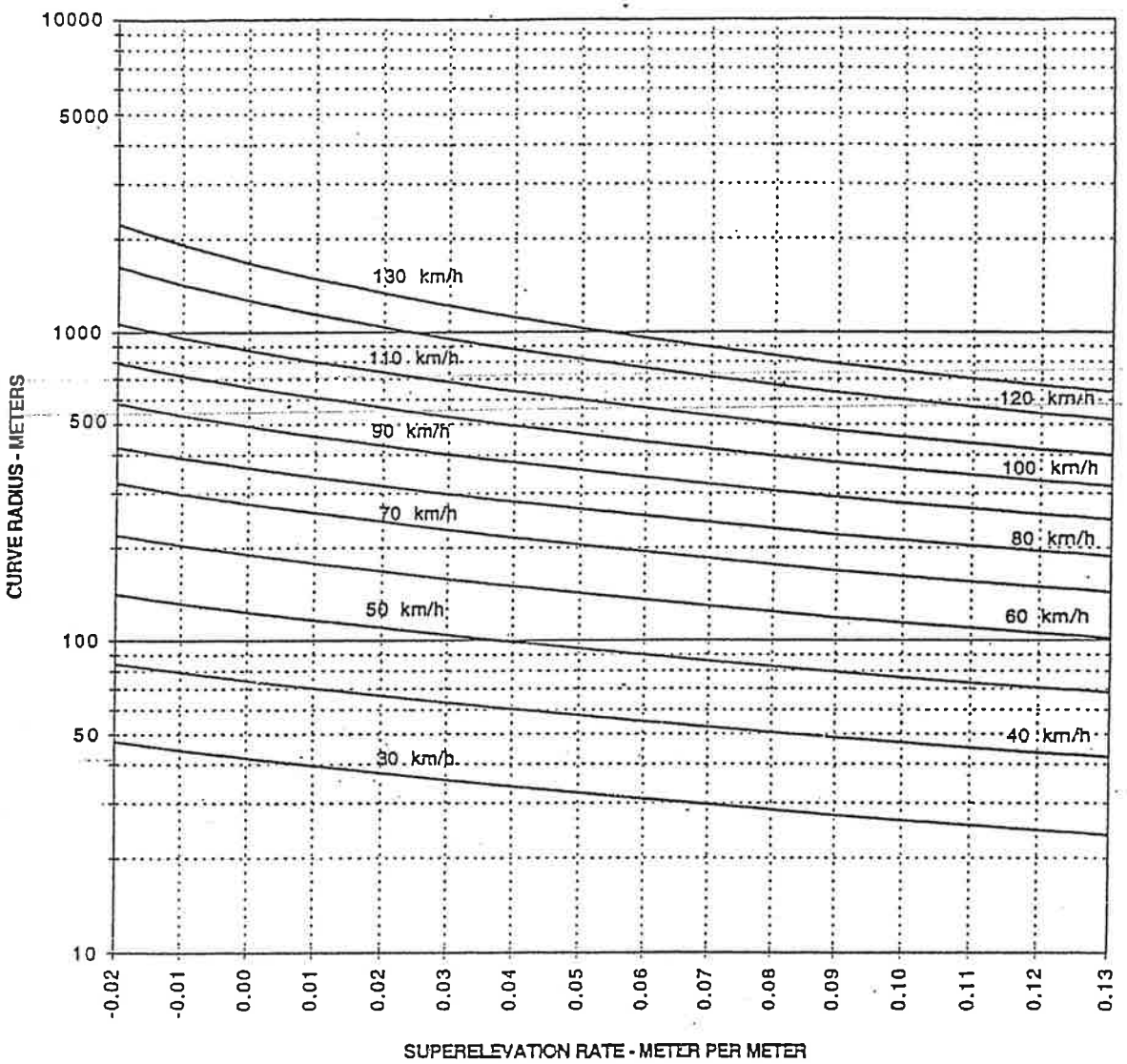


STAA TRUCK
SEMITRAILER WHEEL TRACKS

SCALE IN FEET

60' TURNING RADIUS

Figure 203.2
Comfortable Speed on Horizontal Curves



Speed (km/h)	Side Friction Factor "f"
30	0.17
40	0.17
50	0.16
60	0.15
70	0.14
80	0.14
90	0.13
100	0.12
110	0.11
120	0.09
130	0.08

NOTES:
This figure is not intended to represent standard superelevation rates or curve radius. The standards are contained in Tables 202.2 and 203.2. This figure should be used as an aid to designers to determine comfortable speeds. Use of this figure in lieu of the standards must be documented as discussed in Index 82.2.

e - Superelevation

f - Side Friction Factor

V - Speed (km/h)

R - Radius (meters)

$$e+f = \frac{0.0079\ V^2}{R}$$

1 km/hr = .6214 mph

202.6 Superelevation of Compound Curves

Superelevation of compound curves should follow the procedure as shown in Figure 202.6. Where feasible, the criteria in Index 202.5 should apply.

202.7 Superelevation on City Streets and County Roads

Superelevation rates of local streets and roads which are within the State right of way shall conform to AASHTO standards, for the functional classification of the facility in question. If the local agency having jurisdiction over the local facility in question maintains standards that exceed AASHTO standards, then the local agency standards shall prevail.

See Index 202.2 and Table 202.2 for Frontage Roads within the State right of way. Frontage roads that will be relinquished after construction should follow AASHTO or local standards as stated above.

Topic 203 - Horizontal Alignment

203.1 General Controls

Horizontal alignment should provide for safe and continuous operation at a uniform design speed for substantial lengths of highway. The standards which follow apply to curvature on both 2-lane and multilane highways except when otherwise noted. These standards also apply to portions of local streets and roads within the State right of way which connect directly to a freeway or expressway, or are expected to do so in the foreseeable future. **For local facilities which are within the State right of way and where there is no connection or the connection is to a non-controlled access facility (conventional highway), AASHTO standards shall prevail. If the local agency having jurisdiction over the local facility in question maintains standards that exceed AASHTO standards, then the local agency standards shall prevail.**

The major considerations in horizontal alignment design are safety, profile, type of facility, design speed, geotechnical features, topography, and construction cost. In design, safety is always considered, either directly or indirectly. On freeways in metropolitan areas, alternative studies often indicate that right of way considerations influence alignment more than any other single factor. Topography controls both curve radius and design speed to a large extent. The design speed, in turn, controls sight distance, but sight distance must be considered concurrently with topography because it often demands a larger radius than the design speed. All these factors must be balanced to produce an alignment that is safest, most economical, in harmony with the natural contour of the land, and at the same time adequate for the design classification of the highway.

Horizontal alignment shall provide at least the minimum stopping sight distance for the chosen design speed at all points on the highway, as given in Table 201.1 and explained in Index 201.3. See Index 101.1 for technical reductions in design speed.

203.2 Standards for Curvature

Following is a table which gives the minimum radius of curve for specific design speeds. This table is based upon speed alone; it ignores the sight distance factor. If the minimum radius indicated in Table 203.2 does not provide the desired lateral clearance to an obstruction, Figure 201.6 should govern.

Table 203.2
Standards for Curve Radius

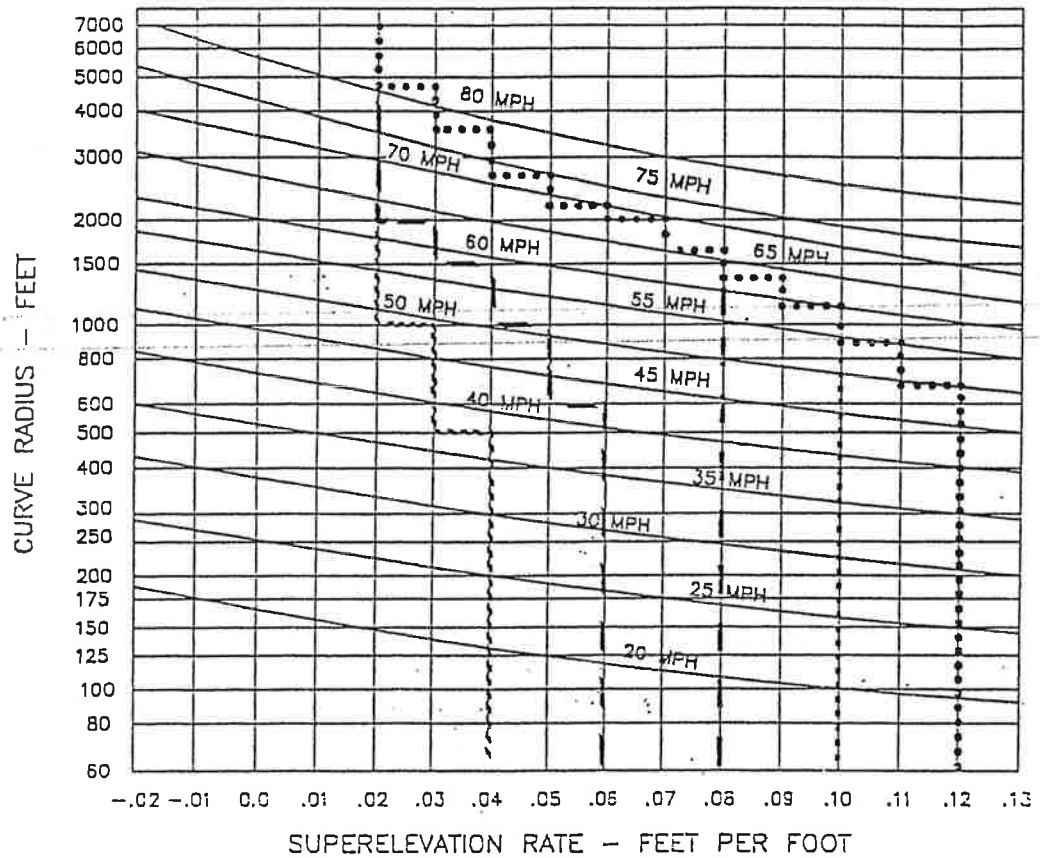
Design Speed (mph)	Minimum Radius of Curve (ft)
20	130
30	300
40	550
50	850
60	1,150
70	2,100
80	3,900

Every effort should be made to exceed minimum values, and such minimum radii should be used only when the cost or other adverse effects of realizing a higher standard are inconsistent with the benefits. As an aid to designers, Figure 203.2 displays the comfortable speed for various curve radii and superelevation rates.

The recommended minimum radii for freeways are 5000 feet in rural areas and 3000 feet in urban areas.

Figure 203.2

Comfortable Speed on Horizontal Curves



SPEED	DESIGN SIDE FRICTION FACTOR
20	0.17
30	0.16
40	0.15
50	0.14
60	0.12
70	0.10
80	0.08

NOTES:

1) SYMBOL LINES indicate standard superelevation rates for various e_{max} values as listed in Index 202.2.

2) Higher value at steps is the proper superelevation for indicated curve radius.

e – SUPERELEVATION
f – SIDE FRICTION FACTOR
V – SPEED IN MILES PER HOUR
R – RADIUS IN FEET

$$e + f = \frac{0.067V^2}{R}$$

Legend:

= .04 e_{max}
= .06 e_{max}
= .08 e_{max}
= .10 e_{max}
= .12 e_{max}

LEONARD A. RIFKIND

ALSO LICENSED IN NEVADA

RIFKIND LAW FIRM

REAL ESTATE
BUSINESS

May 15, 2000

VIA HAND DELIVERY

Mayor Joan Lubamersky
Members of the City Council
City of Larkspur
400 Magnolia Avenue
Larkspur, CA 94939

Re: Weight Limitation for Doherty Drive

Dear Mayor Lubamersky and Members of the City Council:

Our firm represents ten homeowners residing in the Greenbrae Marina subdivision. These homeowners and their predecessors have long suffered from exterior noise levels in violation of the General Plan requirements, adversely affecting their health and reasonable quiet enjoyment of their properties. Addressing this issue is critical since traffic on Doherty Drive has increased 25% in the past 10 years. (CLASP Report, January, 2000). In addition to these health issues, serious safety issues also arise from unregulated truck traffic on Doherty Drive. First and foremost, 2000 children attend public school in the subject area. The City plans to improve the S curves area of Doherty drive with a Class 2 bike path on each side where the City admits sight lines are difficult at best. In addition, vibrations from heavily laded westbound trucks appear to be causally related to homeowner property damage. Actual property damage ranges from a truck crashing into the rear yard of a home adjacent to Doherty Drive to plumbing failures not related to normal and gradual settlement of homes built on fill.

We consider there to be four options to resolve these land use issues: 1. Impose a weight limit on vehicle traffic on Doherty Drive; 2. Construct a sound wall; 3. Pay damages to the owners for diminution in property values; and/or 4. Do nothing. Unfortunately, the City for the past 15 years has opted for option 4, which is not acceptable to our clients. We suggest that the City Council consider option one as the least costly most effective option and enact an ordinance to limit the weight of vehicles traveling on Doherty Drive to three tons or less. This option is supported by 85% of the property owners in the Greenbrae Marina. (See Petition dated March 3, 1999, attached to the Staff report).

As more fully discussed below, the basis for enacting the requested ordinance is as follows:

1. The City has the legal authority to do so pursuant to the California Vehicle Code;

2. Limiting weight will enhance the long term maintenance costs of the roadway;

3. Public health and safety issues require that the City address continuing problems on Doherty Drive; and,

4. The truck traffic at issue is perceived as traffic using Doherty Drive as a cut-through or short cut to access the upper Ross Valley, and to avoid traffic impacts on Sir Francis Drake Boulevard. In effect, the proposed weight limitation will not send the problem to another neighborhood in the City (the watermelon seed effect) but rather address the environmental impacts affecting our clients, while at the same time increase roadway capacity for the future Niven and Nazari projects. Imposing a weight limitation is seen as the least expensive and least intrusive method to solve the health and safety issues. At a minimum, the City should consider imposing a weight limitation on a temporary basis to ascertain its effect. The City has successfully tried traffic improvements on a temporary basis in the past: one-way on Holcomb Avenue, and right turn on a red at Larkspur Landing Circle onto Sir Francis Drake Boulevard.

Background.

The S curves area of Doherty Drive was not paved until the mid 1960's. (See color photo attached as Exhibit A of Redwood High School (RHS) and Doherty Drive depicting a dirt road between Riviera Circle adjacent to the west entrance to RHS and and Lucky Drive). After the road was first constructed it collapsed as it was built on fill over an existing waterway and took weeks to repair. (Personal communication with Joe Monistier, former City employee). Examination of the present road reveals even to the lay observer that the westbound lane is in far worse condition than the eastbound lane. Factors that may contribute to the deteriorated condition of the westbound lane include its proximity to the existing lagoon and that it often bears the weight of loaded trucks.

Our clients' homes in the Greenbrae Marina are closer to the median of Doherty Drive than any other homes in the entire City are to an adjacent arterial road. At the time that the S curves area was paved many of the homes had already been constructed on

adjacent streets in the Greenbrae Marina. These improvements (homes and roadways) predated the enactment of the California Environmental Quality Act (CEQA). As a result several homes in the Greenbrae Marina average only 24 feet to the curb in the S curves area on Doherty Drive. These homes did not have the benefit of noise mitigation measures which were later imposed on the Creekside project. In Creekside, the homes adjacent to Magnolia Avenue average 90 feet from the street median. Homes in the south Magnolia area average 60 feet, and two homes in the Hillview subdivision average 70 feet from Bon Air Road. (Please see graphs attached as Exhibit B. The data used to create these graphs came from aerial photographs of the City and will be present at the public hearing for Council revie

Anecdotal evidence reveals it is undisputed that Doherty Drive had a weight limitation prior to development of the Creekside project. Even some of the current councilmembers recall that a weight limit existed in the past on Doherty Drive. Our investigation reveals that the weight limit sign was taken down in the mid 1980's to allow truck traffic supplying the Creekside project and because the Bon Air bridge had structural problems. City officials at the time promised to replace the weight limit upon completion of Creekside project. Unfortunately in the ensuing years it appears some institutional memory has been lost due to staff turnover. Staff, at the Council's request, conducted a survey to ascertain whether a weight limit actually existed on Doherty at any time. The survey identified several persons who do recall that a weight limit d exist on Doherty Drive. In sum, we are not breaking new ground if a weight limit is re-imposed as requested but simply returning the use of the roadway to its prior condition.

Discussion.

Legal Authority.

Staff concurs the City has the legal authority under the California Vehicle Code to impose a weight limitation. The City presently has a weight limitation for the Alexander Avenue Bridge. Several cities in California impose weight limitations. In Marin County, the City of Novato has a 5-ton limit on a portion of South Novato Boulevard. Mill Valley has had an ordinance since 1949 limiting to 3 tons traffic on East Blithedale between Camino Alto and Millwood. Staff cites in its report that Mill Valley PD issued 26 citations in 1999 to enforce the weight restriction. Likely almost every city in California imposes some type of weight limitation on roadways within their jurisdictions. We have included copies of ordinances for San Mateo, Los Gatos and Pacific Grove, all of which impose both weight and time restrictions on various roadways within their respective jurisdictions. (See, Exhibit C).

Certain vehicles, principally public service and emergency vehicles, garbage trucks and trucks making local deliveries are specifically excepted by statute. The focus here is to prevent commercial truck traffic from using Doherty Drive as a short cut or cut through to non Larkspur based destinations. In sum, City has the legal authority to impose the weight limit requested on Doherty Drive.

Roadway Condition

There seems little disagreement that Doherty Drive is built on bay mud. There seems little point in determining the exact depth of the bay mud other than information indicates the depth is approximately 40 to 45 feet to bedrock. The General Plan identifies Doherty Drive as a likely to collapse in the event of a significant seismic event from liquefaction. (General Plan, p. 132). In addition, heavy loaded trucks impact and deteriorate a roadway faster and result in greater maintenance costs to the City. In constructing the S curves portion of Doherty Drive, we cannot find any approved or as-built plans depicting the type of construction used on this portion of Doherty Drive. In fact anecdotal evidence indicates the S curves were paved and built over a holiday weekend in the mid to late 60's without permits or approvals. Moreover, we are not aware of any "index" for the type of roadway construction used in the S curve area, which is necessary to determine if this portion of the road can handle the type of heavy loaded truck traffic regularly using it. If a weight limit were imposed, the City could expect future savings for roadway maintenance, especially for the more deteriorated westbound lane on Doherty which leans or cants towards the adjacent lagoon.

Transfer of Impact To Other Neighborhoods.

As discussed above, the concern here is to eliminate non-Larkspur bound truck traffic. Our clients performed a traffic survey in November, 1999, in which they identified 56 trucks traveling westbound on Doherty Drive. A copy of this survey is attached hereto as Exhibit D). A more accurate picture of truck traffic optimally should be obtained during the building season, May to early November. While it is not possible to determine the destination of every truck in the survey, it does seem clear that many of these trucks in the survey were not Larkspur bound. This point bears further elaboration. If truck traffic is either northbound or southbound on 101 for final destination of a delivery in downtown Larkspur, our request is not to eliminate Doherty Drive `as a means of access. (See Larkspur Municipal Code Section 10.64.030 (B), which provides exceptions for local deliveries). Accordingly, there will be no spill over effect to other neighborhoods.

As an additional factor, the City could consider imposing time limits when truck traffic can enter Larkspur on via both Magnolia and Bon Air. See ordinances from Los Gatos and Pacific Grove attached as Exhibit C

Enforcement

Staff indicates that enforcement would be difficult and that Twin Cities does not have staff to enforce the proposed weight limitation. First, Mill Valley has no problem with enforcement and likely uses the citations issued as a revenue source. Most police personnel can easily identify a vehicle weighing in excess of 3 tons. As for trucks legitimately destined for downtown or north Magnolia locations, it seems fairly easy for trucks to get a permit, email the police dispatcher, or work out some type of mechanism for alerting the police department that a vehicle in excess of 3 tons may travel on Doherty legally. As a practical matter, simply installing a weight limit sign will cause most law abiding citizens to comply. Once word gets out that Twin Cities PD is enforcing the new weight limit, professional drivers in trucks will likely respect the limitation as their very livelihoods often depend upon a clean driving record.

Health and Safety Issues.

Health Concerns.

The General Plan Circulation Element states that the City shall, "provide safe and efficient transportation facilities for moving people and goods within Larkspur. At the same time, give *quality of life* and *protection of the environment* a higher priority than '"traffic mobility."' [Emphasis original]. (General Plan, p. 4). The General Plan explicitly states it places a higher value on quality of life rather than traffic mobility. In this case limiting truck traffic would comport with the General Plan requirement.

The General Plan Noise Element states that "traffic is the main source of noise in Larkspur." '"Sensitive"' land uses (housing, schools, hospitals) should be located away from high noise levels, or if that's not practical, protected from them." The General Plan has a goal of limiting exterior noise to 55 dB. (General Plan, p. 150). The General Plan further states the City's goal is to "reduce noise levels in areas where the existing noise exceeds normally acceptable levels to levels compatible with the land uses in those areas. . . ." (General Plan, p. 151). General Plan Noise Element Policy X states the City shall "control unnecessary, excessive and annoying noises within the city, where not preempted by federal or State control." The City can achieve this policy in part by adopting the weight limit requested. (General Plan, p. 152). The General Plan

challenges the city council in Policy ab to "encourage creative solutions when potential conflicts arise between noise levels and land use." (General Plan, p. 152). What better way to resolve the conflict between truck traffic on Doherty Drive and sensitive land uses like homes and schools by attempting to legislate the use of Doherty drive in the least intrusive and most creative solution–imposing a weight limit.

Larkspur Municipal Code Chapter 9.54 regulates noise control. The chapter makes it unlawful "for any person to make or cause to be made any sound that endangers or injures the safety or health of humans, or annoys or disturbs a reasonable person of normal sensitivities or endangers or injures personal or real property." (LMC Sec. 9.54.030(A)). Here, commercial truck traffic regularly and daily violates both the noise limitations of the General Plan and the cited ordinance by creating undue noise impacts on residents of the Greenbrae Marina.

A 1991 noise study conducted at 71 Riviera Circle estimated exterior noise levels at 61 dB. (A copy of this report is attached hereto as Exhibit E). In November, 1999, a CLASP noise study concluded that the noise level equaled 69 dB only 39 feet from the center of Doherty Drive. Since most of our clients' homes are within this range, some as close as 24 feet, clearly and objectively major general plan policies and goals are not being met. Significant impact to homeowners' reasonable quiet enjoyment is occurring. To appreciate the impacts at issue here one must understand that decibels are calculated on the logarithmic scale, like the Richter Scale measuring earthquake magnitudes. Thus, for every 10 decibel increase, an average human would consider the noise level *twice* as loud. Thus, where 55 dB are permitted, homeowners may be experiencing regular ambient exterior noise almost 15 dB or far in excess of *twice* the noise level as permitted.

The Creekside EIR estimated 2% truck traffic when little if any truck traffic existed because of the prior weight limit. The most recent CLASP study estimates 8% truck traffic. A January, 2000 CLASP study indicates that traffic has increased by 25% on Doherty Drive over the past 10 years. Thus, it appears as much as one-third of the increase is directly related to commercial truck traffic.

Safety

Sight lines in the S curves portion of Doherty Drive are limited. (See picture of GG Transit bus over crossing over the median line, attached as Exhibit F). Civil engineer Ray Wrysinski has indicated a minimum 125 degree turn radius is required to safely negotiate a turn at 25 mph. The S curves area turn radius is less than the required 125

degrees and creates a classic design defect condition. Staff acknowledges the problem in its report and "hopes" the bike and sidewalk improvements will improve "sight" lines somewhat. Under these conditions, it makes sense to reduce truck traffic as much as reasonably possible. One of our clients while at the Larkspur Square Shopping Center has even overheard Albertson Supermarket truck drivers stating that the drive through the Doherty S curves area by Redwood High School is difficult. (Personal Communication by Dave Hinman).

Imposing a weight limit which limits commercial truck access decreases the chance for a chemical spill near two major public schools and the adjacent lagoon. Chemical spills are a reality of present commerce as seen by major spills in the Novato area in the past year. Simply reducing the risk in sensitive areas makes good land use sense.

Imposing a weight limit will enhance access for emergency vehicle response. In addition, eliminating commercial truck traffic will enhance overall traffic circulation and level of service for both private and public serving vehicles like Golden Gate Transit, as well as increase the level of service available for prospective projects to be developed on the Niven and Nazari properties.

Eliminating commercial truck traffic through a weight limit restriction has several additional benefits. It reduces noise impacts. It will reduce the chance for physical impacts with private property. It will reduce the chance of serious personal injury or death if a heavily laden truck barrels through a homeowner's fence and possibly into the house itself. It takes a truck traveling at 25 mph approximately 30 feet to stop. Do the math where the average home in the S curves area is only 24 feet from the curb of Doherty Drive. Imposing the weight limit will reduce vibration impacts. In addition to physical impacts documented in the past, one homeowner has her rear yard swimming pool "pop" out of the ground. Certainly less truck traffic will reduce air pollution.

Without the requested weight limit the City faces significant bicycle and pedestrian safety issues when it constructs the anticipated bicycle lanes and sides walk improvements in the S curves area. For example, the proposed bicycle paths are only Class 2 and have no protective barriers. Carol Streeter of Caltrans opposes constructing any bike paths for the Richmond Bridge because of significant liability issues. By analogy, the City may be exposing itself to undue liability by constructing bike paths through the S curves area without any protective barriers. When the sun sets in the west all vehicles and especially loaded trucks may have difficulty seeing and avoiding west bound biker riders in an unprotected Class 2 bike lane. In effect, the City

is stating to the world that the bike lanes are safely designed. Certainly, the risk is reduced if large commercial truck traffic is eliminated. Doherty Drive servers as the primary access for 2000 public school children, some of whom are first time drivers. Combining the S curves with their limited sight lines, large commercial trucks, first time drivers, and bicycles is a recipe for disaster.

Based upon all of these factors it seems little to ask the council to consider on a trial basis adopting an ordinance imposing a weight limitation on Doherty Drive. The General Plan policies and goals dictate action. Objective evidence shows the status quo presents serious health and safety issues given the current volume of commercial trucks. Quite simply, the planning process broke down in the late 60's and left homeowners on Via La Brisa and portions of Riviera Circle unduly exposed and significantly impacted. Thank you for your time and consideration.

Respectfully submitted,

RIFKIND LAW FIRM

Leonard A. Rifkind

LAR/es
cc: City of Larkspur Staff, via hand delivery
Clients
051500 letter to City Council.doc

EXHIBIT A

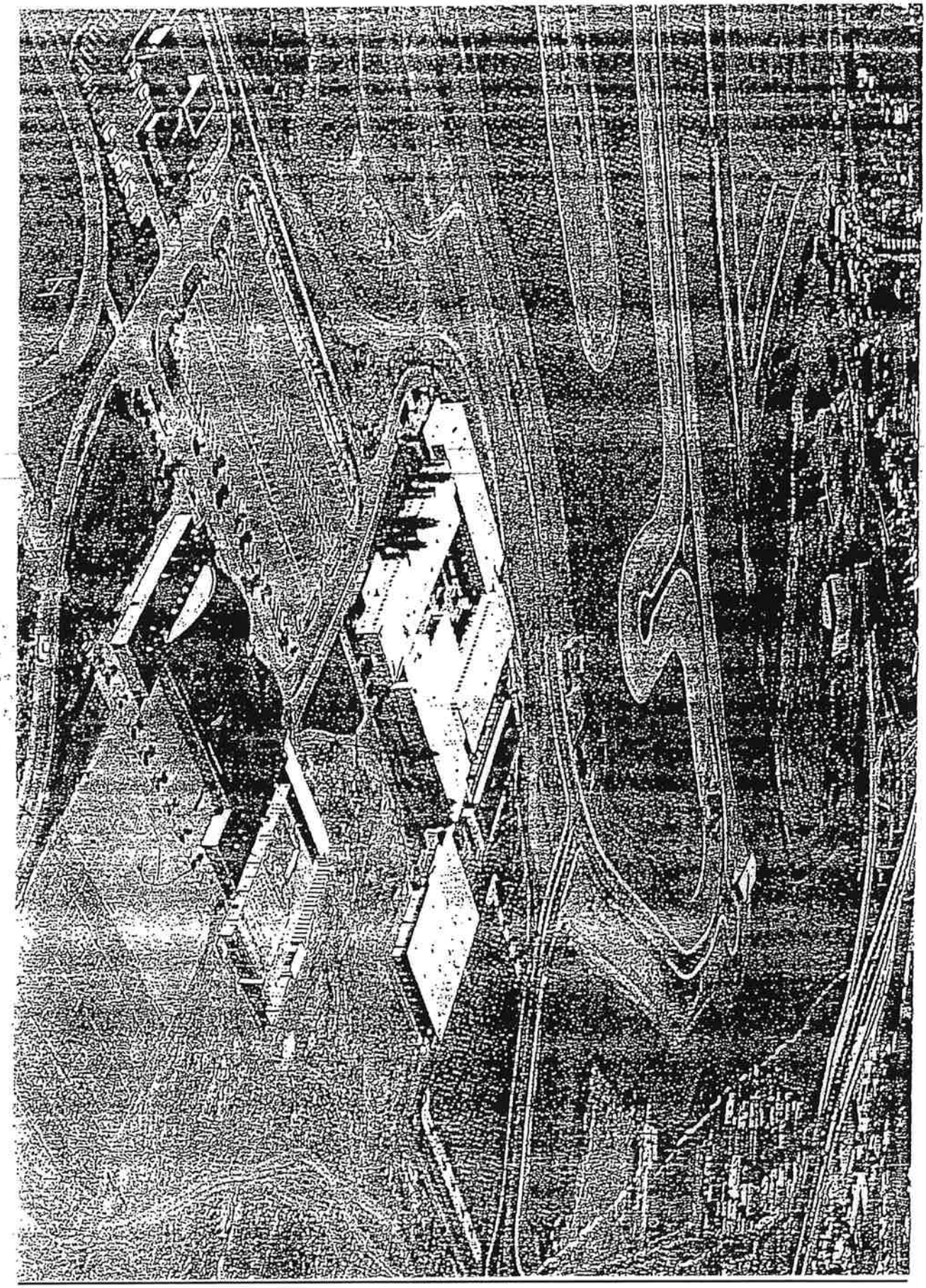
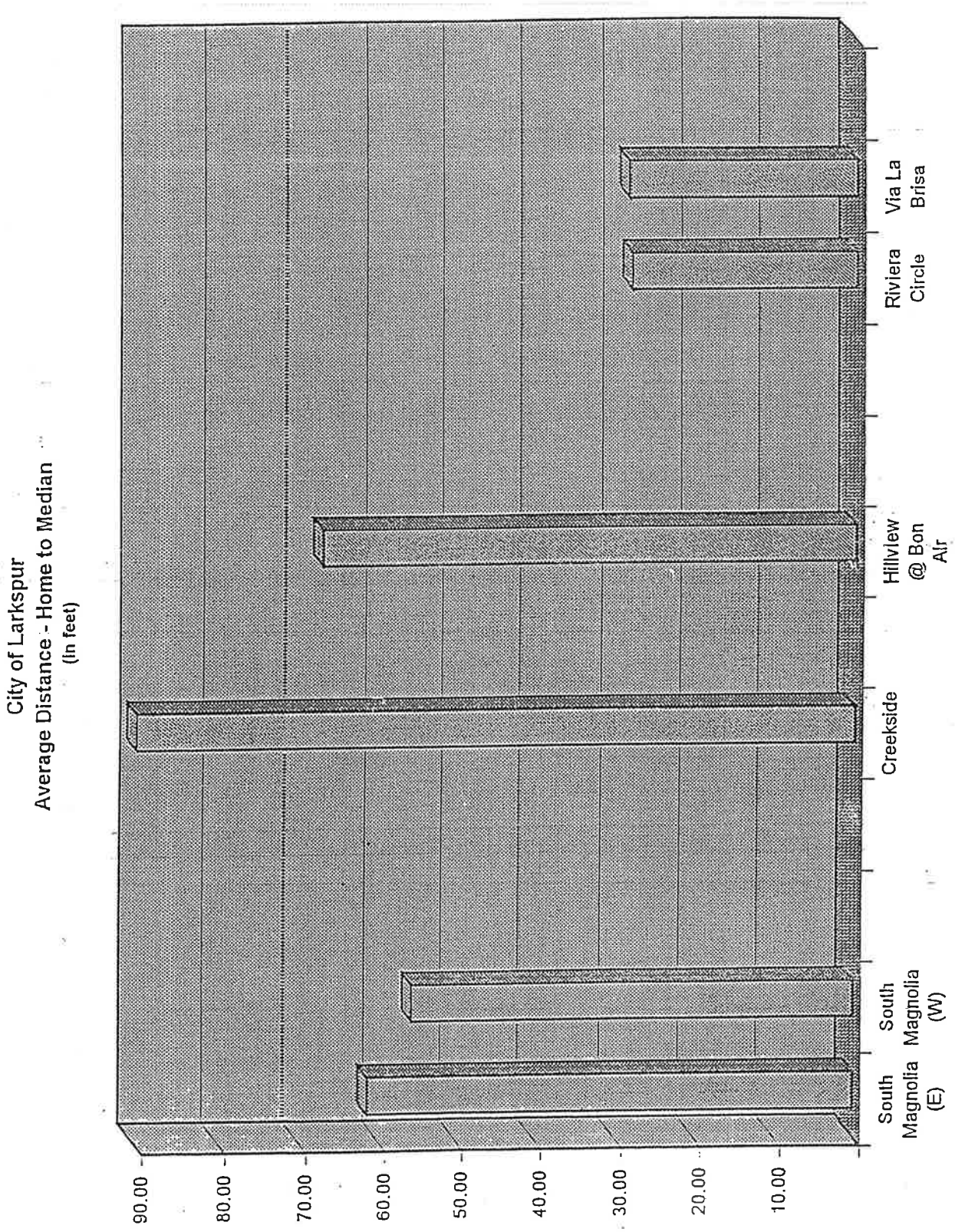
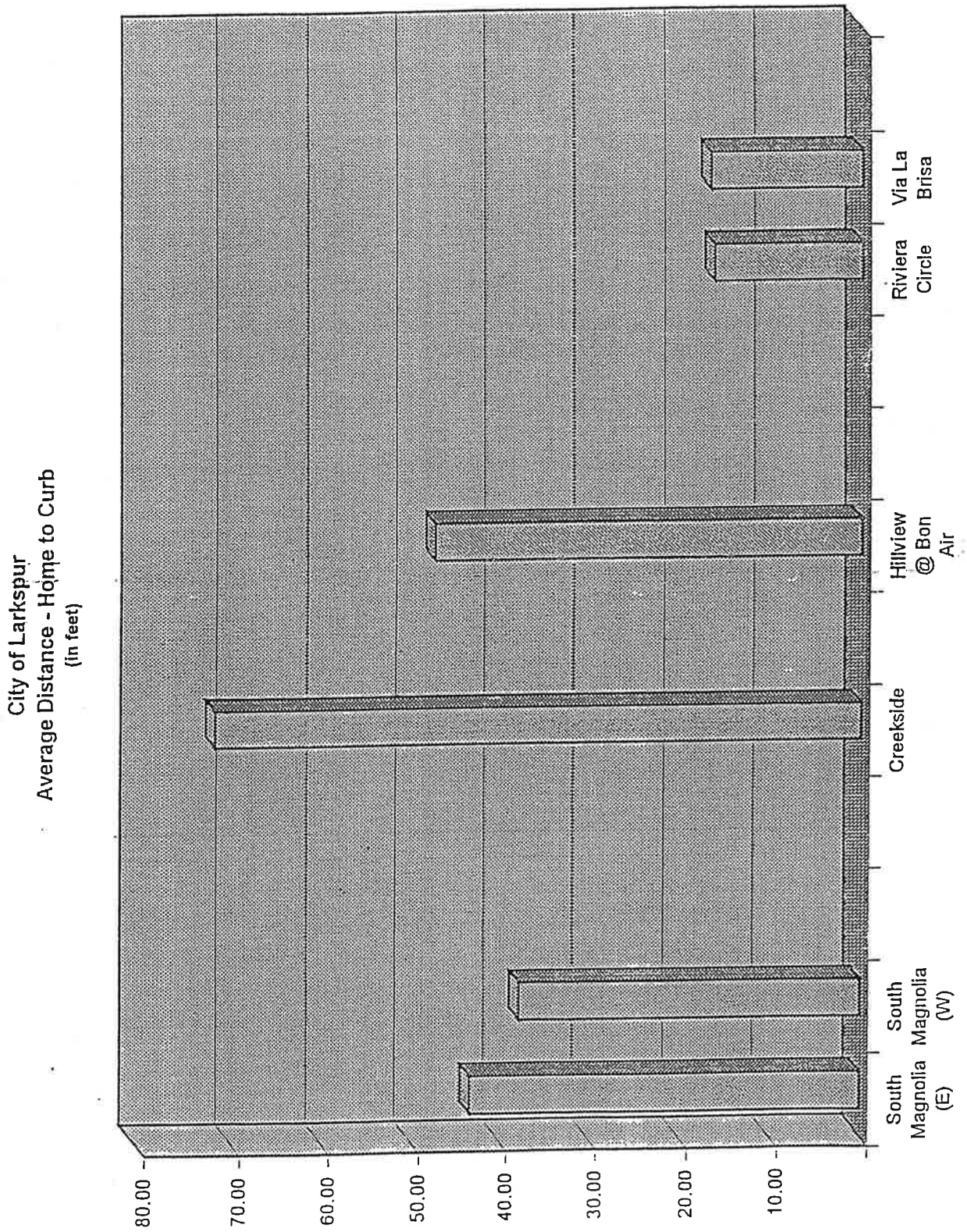


EXHIBIT B

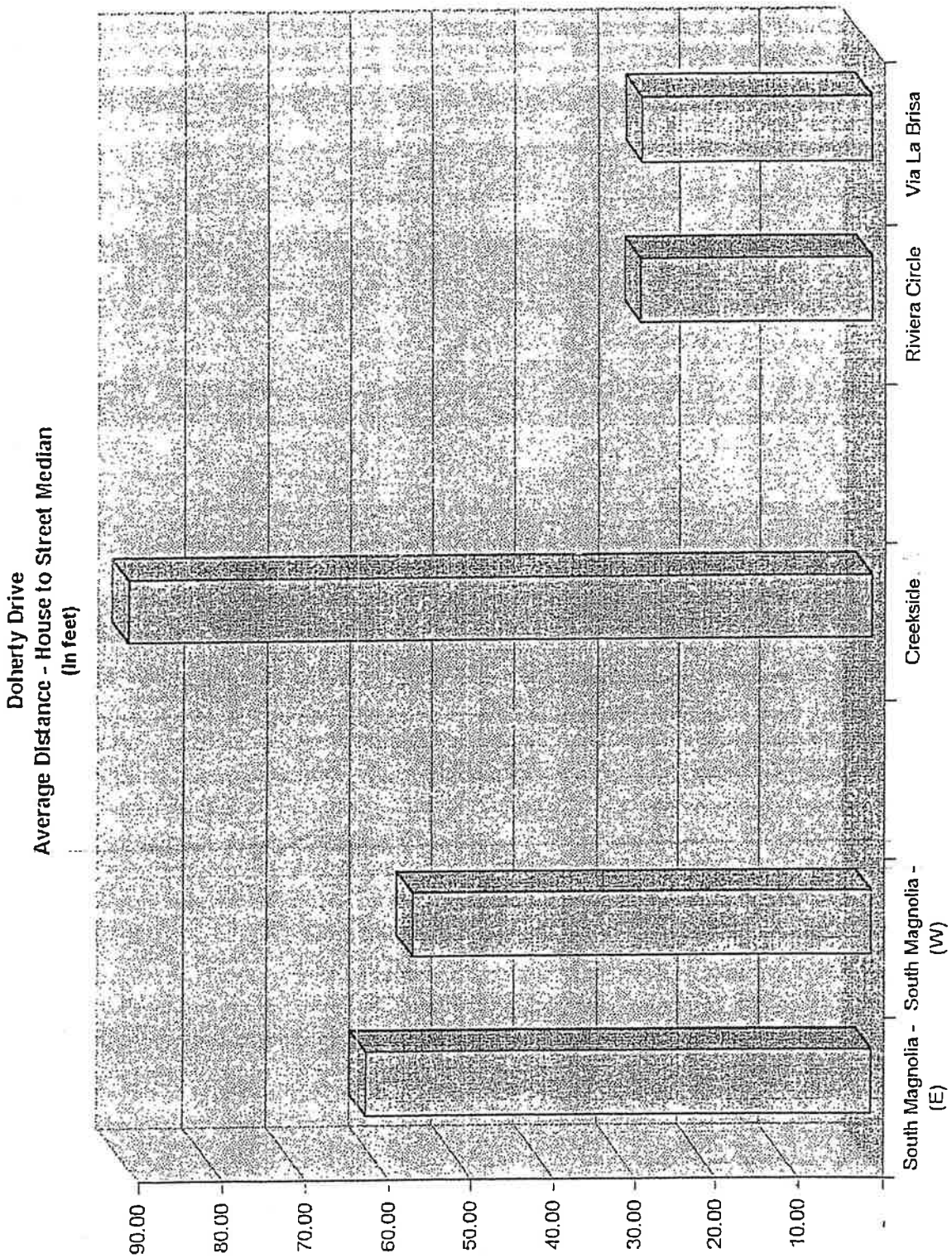

City of Larkspur
Average Distance - Home to Median
(In feet)
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
South Magnolia (E)
South Magnolia (W)
Creekside
Hillview @ Bon Air
Riviera Circle
Via La Brisa

5/12/00


City of Larkspur
Average Distance - Home to Curb
(in feet)
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
South Magnolia (E)
South Magnolia (W)
Creekside
Hillview @ Bon Air
Riviera Circle
Via La Brisa

5/12/00

EXHIBIT C


Doherty Drive
Average Distance - House to Street Median
(In feet)
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
South Magnolia - (E)
South Magnolia - (W)
Creekside
Riviera Circle
Via La Brisa

05/07/2000

EXHIBIT D

City of Pacific Grove
300 Forest Avenue
Pacific Grove, California 93950
(831) 648-3100 FAX (831) 375-9863

longer than one hour at such other times and hours as are specified in Section 16.56.060.
(Ord. 1466 N.S. § 1, 1985: Ord. 480 N.S., 1964: Ord. 210 N.S. § 8-1201, 1952).

16.40.515 Parking – Ninety-minute limit.

When authorized signs are in place giving notice thereof, no person shall stop, stand or park any vehicle on any public parking lots or any of the streets enumerated in Section 16.56.065 for a period of time longer than ninety minutes at any time between the hours of 9:00 a.m. and 6:00 p.m.
(Ord. 1857 N.S. § 1, 1992).

16.40.520 Parking – Two-hour limit.

When authorized signs are in place giving notice thereof, no person shall stop, stand or park any vehicle on any public parking lots or any of the streets enumerated in Section 16.56.070 for (a) a period of time longer than two hours at any time between the hours of 9:00 a.m. and 6:00 p.m. of any day except Sundays and holidays, or (b) a period of time longer than two hours at such other times and hours as are specified in Section 16.56.070.
(Ord. 1466 N.S. § 2, 1985: Ord. 480 N.S., 1964: Ord. 210 N.S. § 8-1202, 1952).

16.40.525 Parking – Evasion of time limits.

(a) For the purposes of Sections 16.40.510, 16.40.515, 16.40.520 and 16.40.530, a vehicle shall be deemed continuously parked in the same place within a timed parking limit area so long as it has not been moved more than one hundred fifty feet.

(b) The purpose of this section is to prevent evasion of short-term parking restrictions in the business district.
(Ord. 97-16. § 1, 1997: Ord. 1318 N.S. § 1, 1982).

16.40.530 Parking – Three-hour limit.

When authorized signs are in place giving notice thereof, no person shall stop, stand or park any vehicle on any public parking lot maintained by the city for a period of time longer than three hours at any time between the hours of 9:00 a.m. and 6:00 p.m. of any day except Sundays and holidays.
(Ord. 537 N.S., 1966).

16.40.535 Parking – Twenty-four hour limit.

When authorized signs are in place giving notice thereof, no person shall stop, stand or park any vehicle in the public parking lot bounded by Lighthouse Avenue, Fountain Avenue, Laurel Avenue, and Fifteenth Street for a period of time in excess of twenty-four hours.

Exception: Those rows of the lot designated for two-hour parking pursuant to Section 16.56.070.
(Ord. 1567 N.S., 1987).

16.40.540 Parking in business district – Load, unload.

When authorized signs are in place giving notice thereof, no person shall stop, stand or park any vehicle upon any street in the business district between the hours of 4:30 a.m. and 6:00 a.m. of any day, except Sundays and holidays, for any purpose other than the loading or unloading of passengers or materials.
(Ord. 1780 N.S. § 1, 1991: Ord. 210 N.S. § 8-1203, 1952).

16.40.550 Parking – No parking anytime.

When signs are erected giving notice thereof, no person shall park a vehicle at any time upon any of the streets or parts of streets described in Section 16.56.090 of this title.
(Ord. 210 N.S. § 8-1204, 1952).

16.40.555 Parking – No parking certain hours.

When signs are erected giving notice thereof, no person shall park a vehicle, during the hours of prohibition of parking indicated in Section 16.56.092, on the streets indicated in said section.

(Ord. 905 N.S. § 1, 1976).

16.40.560 Parking at night – Thirty-minute limit in business district.

No person shall stop, stand or park a vehicle on any public parking lot or any street in the business district for a period of time longer than thirty minutes between the hours of 4:00 a.m. and 6:00 a.m. of any day, except for vehicles occupying spaces reserved under the terms of Section 16.40.300.

The city manager is authorized to designate a space or spaces within the business district which may be occupied during such hours as an exception hereto, for such period of time as he or she is satisfied that such occupancy does not create a sanitation problem in respect to the cleanliness of such space or spaces and proximate areas, or the scheduling of city facilities for cleaning the space or spaces and proximate areas.

(Ord. 785 N.S. § 1, 1974: Ord. 689 N.S. § 1, 1971: Ord. 480 N.S. (part), 1964: Ord. 210 N.S. § 8-1205(a), 1952).

16.40.570 Parking – Commercial vehicles.

No person shall stop, stand or park a vehicle which weighs over four thousand pounds or which is over eighty inches in width on any street for a time longer than thirty minutes between the hours of 2:00 a.m. and 4:00 a.m. of any day. Any violation of this section shall constitute an infraction.

(Ord. 833 N.S. § 15 (part), 1975; Ord. 210 N.S. § 8-1205(b), 1952).

16.40.580 Parking spaces – Authority to install – Compliance.

The city traffic engineer is authorized to install and maintain parking-space markings to indicate parking spaces adjacent to curbings where authorized parking is permitted.

When such parking-space markings are placed in the highway, subject to other and more restrictive limitations, no vehicle shall be stopped, left standing or parked other than within a single space unless the size or shape of such vehicle makes compliance impossible.

(Ord. 325 N.S. (part), 1959; Ord. 210 N.S. § 8-1206 (part), 1952).

16.40.585 Parking on privately owned lots.

Whenever a private parking lot is posted and/or signed so as to restrict the use of the lot for parking with respect to periods of time or persons or classes of persons, it is unlawful for any person to park a vehicle on the lot contrary to the restrictions stated on the sign. Section 41102 of the California Vehicle Code shall be applicable to violation hereof.

(Ord. 748 N.S. § 1, 1973).

16.40.600 Parking permits for private vehicles used on city business.

The city clerk shall issue a parking permit to any city employee or official required to use his or her private vehicle on city business. Such permit shall grant a private vehicle the status of a city vehicle with respect to parking regulations. The permit shall be subject to the following limitations:

(a) Permit valid only when private vehicle used to conduct official business;

(b) Permit to be clearly displayed as designated by the city clerk;

(c) Permit valid only in city parking facilities and on streets;

(d) Permit not valid where parking is prohibited (e.g., red zones, loading zones) or where parking is restricted to handicapped;

(e) Permit shall be revoked for abuse.

(Ord. 1729 § 1, 1990).

16.42.110 Exceptions.

The provisions of this chapter shall be inapplicable to:

(a) Vehicles owned or operated by the city when being used in the line of duty;

(b) Emergency vehicles, when responding to an emergency;

(c) Vehicles registered to or used by a disabled person which displays a distinguishing license plate or placard issued by the California Department of Motor Vehicles.

(Ord. 1455 N.S. § 1 (part), 1984).

Chapter 16.44

TRUCKS AND COMMERCIAL VEHICLES*

Sections:

16.44.010	Routes – Designated by traffic engineer.
16.44.020	Routes – Use required.
16.44.030	Routes – Subject to Section 16.56.100.
16.44.040	Central business district – Certain vehicles prohibited.
16.44.050	Emergency delivery – Permission.
16.44.060	Advertising vehicles – Prohibited.
16.44.070	Truck – Disabled – Warning device.

* Parking regulations – See Chapter 16.40 of this code.

16.44.010 Routes – Designated by traffic engineer.

Whenever any ordinance of this city designates and describes any street or portion thereof as a street the use of which is permitted by any vehicle exceeding a maximum gross weight limit of three tons, the city traffic engineer is authorized to designate such street or streets by appropriate signs as "Truck Traffic Routes" for the movement of vehicles exceeding a maximum gross weight limit of three tons.

(Ord. 210 N.S. § 8-1301(a), 1952).

16.44.020 Routes – Use required.

When any such truck traffic route or routes are established and designated by appropriate signs, the operator of any vehicle exceeding a maximum gross weight limit of three tons shall drive on such route or routes and none other, except when necessary to traverse another street or streets to a destination for the purpose of loading or unloading, but then only by such deviation from nearest truck route as is reasonably necessary. The provisions of this section shall not apply to passenger buses under the jurisdiction of the public utilities commission. Any violation of this section shall constitute an infraction.

(Ord. 833 N.S. § 15 (part), 1975; Ord. 210 N.S. § 8-1301(b), 1952).

16.44.030 Routes – Subject to Section 16.56.100.

Those streets and parts of streets described in Section 16.56.100 are declared to be truck traffic routes for the movement of vehicles exceeding a maximum gross weight of three tons.

(Ord. 210 N.S. § 8-1301(c), 1952).

16.44.040 Central business district – Certain vehicles prohibited.

No person shall operate any of the following vehicles in the central business district between the hours of 7:00 a.m. and 6:00 p.m. of any day:

(a) Any freight vehicle which is more than eight and one-half feet in width with load, or any freight vehicle so loaded that any part of its load extends more than twenty feet to the front or rear of said vehicle;

(b) Any vehicle which is carrying building material that has not been loaded, or is not to

be unloaded, at some point within the central business district.
(Ord. 325 N.S. (part), 1959: Ord. 210 N.S. § 8-1302(a), 1952).

16.44.050 Emergency delivery – Permission.

The chief of police may by written permit authorize the operation of any such vehicle for the purpose of making necessary emergency deliveries to or from points within the central business district.
(Ord. 325 N.S. (part), 1959: Ord. 210 N.S. § 8-1302(b), 1952).

16.44.060 Advertising vehicles – Prohibited.

No person shall operate or drive any vehicle used as an advertising billboard upon any street or alley in any C-1 district of this city; provided, that this section shall not prevent the carrying of matter advertising or identifying the products or services of the owners.
(Ord. 570 N.S., 1967: Ord. 325 N.S. (part), 1959: Ord. 210 N.S. § 8-1303, 1952).

16.44.070 Truck – Disabled – Warning device.

Every motor truck having an unladen weight of four thousand pounds or more, and every truck tractor irrespective of weight operated upon any street or highway during the time specified in Section 618 of the Vehicle Code shall be equipped with and carry at least two flares or two red lanterns, or two warning lights or reflectors, which reflectors shall be of a type approved by the Department of California Highway Patrol. When any vehicle mentioned above or any trailer or semitrailer is disabled upon streets or highways outside of any business or residence district within this city and upon which street or highway there is insufficient street lighting to reveal a vehicle at a distance of two hundred feet during any time mentioned in Section 618 of the Vehicle Code, a warning signal of the character indicated above shall be immediately placed at a distance of approximately one hundred feet in advance of, and one hundred feet to the rear of, such disabled vehicle by the driver thereof. The continuous flashing of at least four approved type class A-Type 1 turn signal lamps, at least two toward the front and at least two towards the rear of the vehicle, shall be considered to meet the requirements of this section until the devices mentioned above can be placed in the required locations. The warning signals mentioned herein shall be displayed continuously during the times mentioned in Section 618 while such vehicle remains disabled upon such street or highway.
(Ord. 210 N.S. § 8-1013 (part), added by Ord. 362 N.S., 1961).

Chapter 16.52

SPEED ZONES

Sections:

16.52.010 Speed limit – Increased in certain zones.
16.52.020 Speed limit – Decreased in certain zones.
16.52.030 Traffic signals – Timing regulated by traffic engineer.

16.52.010 Speed limit – Increased in certain zones.

It is hereby determined upon the basis of an engineering and traffic investigation that the speed permitted by state law upon certain streets is less than is necessary for safe operation of vehicles thereon by reason of the designation and signposting of said streets as through highways and/or by reason of widely spaced intersections, and it is hereby declared that the prima facie speed limit shall be as hereinafter set forth on those streets or parts of streets designated in Section 16.56.110 when signs are erected giving notice thereof.
(Ord. 210 N.S. § 8-1501, 1952).

16.56.100 Truck routes.

In accordance with Sections 16.44.010 through 16.44.030 and when signs are erected giving notice thereof, the following streets or portions of streets are hereby declared to be truck traffic routes for the movement of vehicles exceeding a maximum gross weight of three tons:

(a) Central Avenue in its full length;

(b) Congress Avenue from Lighthouse Avenue to Sinex Avenue;

(c) Sinex Avenue from Congress Avenue to Seventeen Mile Drive.

(Ord. 235 N.S., 1955; Ord. 223 N.S. 1952; Ord. 210 N.S. § 8-1608, 1952).

16.56.110 Increasing state speed limit in certain zone.

None.

(Ord. 210 N.S. § 8-1610, 1952).

16.56.120 Decrease of state law maximum speed.

On the following streets, speed limits shall be decreased as specified herein:

(a) Congress Avenue between David Avenue and Sunset Drive speed limit decreased to twenty-five miles per hour.

(Ord. 486 N.S., 1964).

16.56.125 Fifteen mile per hour speed limit.

On the following streets, the maximum speed limit shall be fifteen miles per hour:

(a) Lighthouse Avenue, in both directions, between Cypress Avenue and Thirteenth Street.

(Ord. 1610 N.S. § 1, 1987).

16.56.130 Regulation of speed by traffic signals.

None

(Ord. 210 N.S. § 8-1612, 1952).

Chapter 16.60

PARADES

Sections:

16.60.010 Permit required.
16.60.020 Exceptions.
16.60.030 Application for permit.
16.60.040 Issuance of permit.
16.60.050 Bond.
16.60.060 Terms of permit.
16.60.070 Notice of rejection.
16.60.080 Appeal.
16.60.090 Alternate permit.
16.60.100 Late applications.
16.60.110 Notification of officials.
16.60.120 Interference with parade.

16.60.010 Permit required.

It shall be unlawful for any person to hold, manage, conduct, aid, participate in, form, start or carry on, any parade, march, ceremony, show, exhibition, pageant, or procession of any kind or any other similar display, or cause or permit the same upon any public street, alley, park or any other public grounds in the city unless there has first been obtained from the chief of police a permit to do so, and said permit shall be carried by a person heading or leading said activity.

(Ord. 527 N.S. (part), 1965).

16.60.020 Exceptions.

The provisions of this chapter shall not apply to:

(a) Funeral processions;

(b) Students of Pacific Grove schools going to and from classes or when constituting a part of their educational activities and under the immediate direction and supervision of the proper school authorities; nor

(c) A governmental agency within the scope of its functions.

(Ord. 527 N.S. (part), 1965).

To Chuck Moltzahn
from Town of Los Gatos

ARTICLE I. IN GENERAL

Sec. 15.10.010. Definitions.

For the purpose of this chapter, the following words and phrases shall have the meanings respectively ascribed to them by this section:

General. Whenever any words or phrases used in this chapter are not defined herein, but are defined in the Vehicle Code of the State, such definitions are incorporated herein and shall be deemed to apply to such words and phrases used herein as though set forth herein in full.

Curb. The lateral physical boundary of the roadway of a street, whether marked by curbing construction or not so marked.

Driveway. That portion of a street between a curbline and adjacent property line designed to give vehicular access to the adjacent property and so constructed as to support the weight of any motor vehicle.

Holiday.

(1) Every Sunday

(2) New Year's Day (January first)

(3) Martin Luther King Day (third Monday of January)

(4) Lincoln's Birthday (February twelfth)

(5) Washington's Birthday (third Monday in February)

(6) Memorial Day (last Monday of May)

(7) Independence Day (July fourth)

(8) Labor Day (first Monday of September)

(9) Admission Day (September ninth)

(10) Columbus Day (second Monday of October)

(11) Veterans Day (November eleventh)

(12) Thanksgiving Day (fourth Thursday of November)

(13) Christmas Day (December twenty-fifth)

(14) Every day appointed by the President or Governor for a public fast, thanksgiving or holiday, which is also designated as a Town holiday by the Mayor through written directive.

Intersection. That area of the roadway embraced within the prolongation of the property lines of two (2) or more streets which join at any angle, whether or not one (1) such street crosses the other.

Leave standing. To stop a vehicle for any purpose unless required by traffic conditions, whether or not the engine is running and whether or not there is in the vehicle a person capable of operating the same.

Limited access highway. Every highway, street, or roadway in respect to which owners or occupants of abutting property or lands and other persons have no legal right of access to or from the same, except at such points only and in such manner as may be determined by the public authority having jurisdiction over such highway, street or roadway.

Loading zone. The space adjacent to a curb reserved for exclusive use of the vehicles during the loading or unloading of passengers or materials.

Operator. Any person who is in actual physical control of a vehicle.

Parkway. That portion of a street other than a roadway or a sidewalk.

Passenger loading zone. The space adjacent to a curb reserved for the exclusive use of vehicles during the loading or unloading of passengers.

Police Officer. Every sworn officer of the Police Department of the Town.

Resolution. Resolution of the Town Council.

Stop. When required, complete cessation of movement.

Traffic. Pedestrians, ridden or herded animals, vehicles, bicycles and other conveyances, either singly or together, while using any street for purposes of travel.
(Code 1968, § 16-1)

Cross reference—Definitions and rules of construction generally, § 1.10.015.

Sec. 15.10.015. Filing accident reports.

The Chief of Police shall maintain a suitable system of filing traffic accident reports.
(Code 1968, § 16-3)

Sec. 15.10.020. Erection of and obedience to barriers; signs; etc.

No person, public utility or any department of this Town shall erect or place any barrier or sign on any street unless of a type first approved by the Chief of Police. It shall be unlawful for any person to disobey the instructions of any barrier or sign placed in any street by any public utility or by any department of this Town; provided, that the type of barrier or sign so erected has been first approved by the Chief of Police.
(Code 1968, § 16-4)

Sec. 15.10.025. Use of skateboard, in-line skates, or roller skates; prohibited areas.

No person shall ride or propel a skateboard, in-line skates, or roller skates in the following areas:

(a) Any publicly owned off-street parking lot.

(b) On any publicly owned tennis court.

(c) On any construction site located on public property.

(d) The Civic Center of the Town of Los Gatos at 110 East Main Street which includes, but is not limited to, the fountain area, courtyard, parking lot, stairs, walls, and all walkways, sidewalks, and curbs within the Civic Center area or bounded by it. The Civic Center also includes the Town Library, Neighborhood Center and the parking lots adjacent to these buildings.

(e) During darkness as defined by California Vehicle Code Section 280, in any publicly owned area not otherwise prohibited by this article, unless wearing a reflective device or devices or reflective clothing is worn on the person of the rider in a manner that is visible from all directions during the hours of darkness.

(f) On privately owned property, including a parking lot, if (1) the owner of the property has first placed signs in plain view at each vehicular entrance and/or exit to the lot, and (2) the signs are not less than seventeen (17) by twenty-two (22) inches in size with lettering not less than one (1) inch in height, and (3) the signs state: "Unlawful to ride or propel skateboards, in-line skates, or roller skates on this property. Los Gatos Town Code Section 15.10.025(f)."(Code 1968, § 16-7; Ord. No. 1944, § II, 5-17-93)

Cross reference—Amusements generally, Ch. 3.

Sec. 15.10.026. Regulations for operation of skateboard, in-line skates, or roller skates; sidewalks, highways or roadways.

No person shall violate any provision in this section. A person riding or propelling a skateboard, in-line skates, or roller skates on sidewalks, highways or roadways:

(a) Shall proceed upon highways or roadways on the far right-hand side of a highway or roadway;

(b) Shall not impede or interfere with the flow of vehicular traffic;

(c) Shall yield to all pedestrians on highways, sidewalks or roadways, including at or in marked and unmarked crosswalks;

(d) Shall yield to approaching vehicles when entering any highway, roadway or intersection;

(e) Shall not suddenly leave a curb or other place of safety and travel into the path of a vehicle which is so close as to constitute an immediate hazard;

(f) Shall not hitch rides by attaching himself of herself to any vehicle or other motive device, or allow a person to hitch a ride on any vehicle or motive device;

(g) Shall obey all stop signs, traffic signals, yield signs, and other such traffic control devices.

(Ord. No. 1944, § II, 5-17-93)

Cross reference—Amusements generally, Ch. 3.

Sec. 15.10.030. Use of skateboard, in-line skates, or roller skates; reckless or trick riding.

No person shall ride or propel a skateboard, in-line skates, or roller skates in a Business District as defined by California Vehicle Code Section 235, in the following manner:

(a) Perform any tricks, stunts, any form of acrobatic actions or other actions that are likely to cause injury or damage property;

(b) Will not travel at a speed greater than is reasonable and prudent having due regard for the pedestrian or vehicle traffic, width of the sidewalk or roadway, and in no event at a speed which endangers the safety of persons or property.

(Code 1968, § 16-7.5; Ord. No. 1944, § II, 5-17-93)

Cross reference—Amusements generally, Ch. 3.

Sec. 15.10.035. Unauthorized use of private property.

It shall be unlawful for any person to operate or drive or leave any vehicle in, over or upon any private property without the express permission of the owner thereof.

(Code 1968, § 16-8)

Sec. 15.10.040. Intoxicated persons in or about vehicles.

It shall be unlawful for any person who is under the influence of intoxicating liquor or narcotic drugs to be in or about any vehicle to which the person has right of access or control while such vehicle is in or upon any street or any other public place in the Town, unless the same is under the immediate control or operation of a person not under the influence of intoxicating liquor or narcotic drugs.

(Code 1968, § 16-9)

Sec. 15.10.045. Railroad trains not to block streets.

It shall be unlawful for the operator of any steam interurban or street railway train or car to operate the same in such manner as to prevent the use of any street for purposes of travel for a period of time longer than five (5) minutes.

(Code 1968, § 16-10)

ARTICLE II. ADMINISTRATION AND ENFORCEMENT*

Sec. 15.20.010. Powers and duties of Chief of Police.

(a) It shall be the duty of the Police Chief, with such aid as may be rendered by other members of the Police Department, to enforce the street traffic regulations of the Town and all of the State vehicle laws applicable to street traffic in this Town, to make arrests for traffic violations, to investigate traffic accidents and to cooperate with the other officers of the Town

*Cross reference—Administration generally, Ch. 2.

in the administration of the traffic laws and in developing ways and means to improve traffic conditions, and to carry out those duties specially imposed upon the Police Department of this Town.

(b) It shall be the general duty of the Police Chief, under this chapter, to determine the installation and proper timing and maintenance of traffic-control devices and signals, to conduct analyses of traffic accidents and to devise remedial measures, to conduct investigation of traffic conditions, and to cooperate with other Town officials in the development of ways and means to improve traffic conditions, and to perform such other duties hereunder as may be required by the Town Council.
(Code 1968, § 16-12)

Cross reference—Town officers and employees generally, § 2.30.010 et seq.

Sec. 15.20.015. Powers and duties of Police Officers; directing of traffic by Police Officers and Firefighters.

(a) It shall be the duty of the officers of the Police Department, or such officers as are assigned by the Chief of Police, to enforce all street traffic laws of this Town and all of the State vehicle laws applicable to street traffic in this Town.

(b) Officers of the Police Department, or such officers as are assigned by the Chief of Police, are hereby authorized to direct all traffic by voice, hand or signal in conformance with traffic laws; provided, that in the event of a fire or other emergency, or to expedite traffic or to safeguard pedestrians, officers of the Police Department may direct traffic as conditions may require, notwithstanding the provisions of the traffic law.

(c) Officers and members of the Fire Department, when at the scene of a fire, may direct or assist the Police in directing traffic thereat or in the immediate vicinity.
(Code 1968, § 16-13)

Cross reference—Town officers and employees generally, § 2.30.010 et seq.

Sec. 15.20.020. Directing of traffic by unauthorized persons.

No person other than an officer of the Police Department, or a person authorized by the Chief of Police, or person authorized by law, shall direct or attempt to direct traffic by voice, hand or other signal (except that persons may operate any mechanical push button signal erected by order of the Chief of Police).
(Code 1968, § 16-15)

Sec. 15.20.025. Exemptions for certain vehicles.

The provisions of this chapter regulating the parking or standing of vehicles shall not apply to any vehicle of a Town Department or public utility while necessarily in use for construction or repair work, or any vehicle owned by the United States while in use for the collection, transportation or delivery of United States mail.
(Code 1968, § 16-17)

Sec. 15.20.030. Regulation of speed by use of traffic signals.

The Town Engineer is authorized to regulate the timing of traffic signals so as to permit the movement of traffic in an orderly and safe manner at speeds slightly at variance from the speeds otherwise applicable within the district or at intersections and may erect appropriate signs giving notice thereof.
(Code 1968, § 16-18)

Hilow Road, from Town limits to Town limits;

Howes Drive, from Los Gatos-Almaden Road to Kensington Way;

Jackson Street, from East Main Street to Oak Hill Way;

Johnson Avenue, from Los Gatos Boulevard to Spring Street;

South Kennedy Road, from Kennedy Road to Kennedy Road;

Kensington Way, from Hershner Drive to Anne Way;

Las Astas Drive, from Arroyo Grande Way to Arroyo Grande Way;

Lester Lane, from Los Gatos-Almaden Road to Town limits;

Loma Alta Avenue, from Los Gatos Boulevard to Cypress Way;

Los Gatos Boulevard, from Alpine Avenue to Spencer Avenue;

East Main Street, from Route 17 Freeway to Alpine Avenue;

West Main Street, from Broadway to Route 17 Freeway;

Marchmont Drive, from west Town limits to Marchmont Court;

Mariposa Avenue, from Santa Cruz Avenue to Town limits;

Massol Avenue, from Saratoga Avenue to Bean Avenue;

Meadowbrook Drive, from Blossom Hill Road to Anne Way;

Montclair Road, from Quito Road to Bicknell Road;

More Avenue, from Pollard Road to Bicknell Road;

National Avenue, from Samaritan Drive to Los Gatos-Almaden Road;

Nicholson Avenue, from Santa Cruz Avenue to Town limits;

Nino Avenue, from Los Gatos Boulevard Hill Road to Blossom Hill Road;

Oka Road, from Lark Avenue to Mozart Avenue;

Old Adobe Road, from Bicknell Road to Quito Road;

Old Blossom Hill Road, from Blossom Hill Road to Blossom Hill Road;

Parr Avenue, from Pollard Road to Capri Drive;

Pennsylvania Avenue, from Bayview Avenue to Wissahickon Avenue;

Quito Road, from Pollard Road to south Town limits;

Reedhead Lane, from Johnson Avenue to Loma Alta Avenue;

Roberts Road, from Santa Cruz Avenue to Los Gatos Boulevard;

Roxbury Lane, from More Avenue to Town limits;

San Benito Avenue, from Saratoga Avenue to Mariposa Avenue;

Santa Cruz Avenue, from Route 17 Freeway to Bruce Avenue;

Santa Rosa Drive, from Shannon Road to east end;

Sunray Drive, from Benedict Lane to Corrine Drive;

Tait Avenue, from West Main Street to Saratoga Avenue;

University Avenue, from West Main Street to Blossom Hill Road;

Vasona Avenue, from Pollard Road to Capri Avenue;

Via Santa Maria, from Pinta Court to Kennedy Road;

Vista Del Monte, from Kennedy Road to south end;

Wedgewood Avenue, from Pollard Road to Pollard Road;

Westchester Drive, from Camino Del Carro to Town limits;

Westhill Drive, from Blossom Hill Road to Bacigalupi Drive;

Wimbledon Drive, from Winchester Boulevard to Wedgewood Avenue;

Winchester Boulevard, from Bruce Avenue to Shelburne Way;

Wissahickon Avenue, from Hernandez Avenue to Laurel Avenue;

All remaining residential and commercial streets.

Prima Facie Speed Limit Declared 30 mph

Hicks Road, from north Town limits to south Town limits;

Kennedy Road, from Los Gatos Boulevard to 1,900 feet west of Forrester Road;

Lark Avenue, from Winchester Boulevard to Los Gatos Boulevard;

Shannon Road, from Los Gatos Boulevard to 750 feet east of Happy Acres Road;

Shannon Road, from 1,900 feet east of Forrester Road to the southeasterly Town limits;

Short Road, from Shannon Road to Old Blossom Hill Road.

Prima Facie Speed Limit Declared 35 mph

Blossom Hill Road, from North Santa Cruz Avenue to east Town limits;

Knowles Drive, from Pollard Road to Winchester Boulevard;

Los Gatos-Almaden Road, from Los Gatos Boulevard to east Town limits;

Los Gatos Boulevard, from Spencer Avenue to Lark Avenue;

Pollard Road, from Winchester Boulevard to Quito Road;

Shannon Road, from approximately 750 feet east of Happy Acres Road to east Town limits;

Union Avenue, from Blossom Hill Road to Los Gatos-Almaden Road;

University Avenue, from Blossom Hill Road to Lark Avenue;

Winchester Boulevard, from Shelburne Way to Knowles Drive;

Prima Facie Speed Limit Declared 40 mph

Los Gatos Boulevard, from Lark Avenue to north Town limits;

Winchester Boulevard, from Knowles Drive to north Town limits.
(Code 1968, § 16-43.2; Ord. No. 1810, § I, 2-5-90; Ord. No. 1866, §§ I, II, 9-3-91; Ord. No. 2028, §§ I, II, 2-13-97)

Secs. 15.30.240—15.30.300. Reserved.

DIVISION 4. TURNING MOVEMENTS

Sec. 15.30.305. Placement of and obedience to turning markers.

(a) The Chief of Police is authorized to place markers, buttons, or signs within or adjacent to intersections indicating the course to be traveled by vehicles turning at such intersections, and the Chief of Police is authorized to allocate and indicate more than one (1) lane of traffic from which drivers of vehicles may make right or left hand turns, and such course to be traveled as so indicated may conform to, or be other than as prescribed by, law or this chapter.

(b) When authorized markers, buttons, or other indications are placed within an intersection indicating the course to be traveled by vehicles turning thereat, no driver of a vehicle shall disobey the directions of such indications.
(Code 1968, § 16-30)

Sec. 15.30.310. Placement of restricted turn signs.

The Town Engineer is hereby authorized to determine those intersections at which drivers of vehicles shall not make a right, left or U-turn, and shall place proper signs at such intersections. The making of such turns may be prohibited between certain hours of any day and permitted at other hours, in which event the same shall be plainly indicated on the signs or they may be removed when such turns are permitted.
(Code 1968, § 16-31)

Sec. 15.30.315. Obedience to restricted turn signs.

Whenever authorized signs are erected indicating that no right or left U-turn is permitted, no driver of a vehicle shall disobey the directions of any such sign.
(Code 1968, § 16-32)

Sec. 15.30.320. Left turns between intersections.

It shall be unlawful for the operator of any vehicle to turn such vehicle to the left, whether for the purpose of entering or leaving a driveway or otherwise, at any place between the intersections and during the times designated by the Chief of Police, when such places are appropriately signed or marked.
(Code 1968, § 16-33)

Sec. 15.30.325. Right turns at signal controlled intersections.

No driver of a vehicle shall make a right turn against a red or stop signal at any intersection which is sign posted giving notice of such restriction as hereinafter provided in this section. The Town Engineer shall post appropriate signs giving effect to this section where the Town Engineer determines that the making of right turns against traffic signal "stop" indication would seriously interfere with the safe and ordinary flow of traffic.
(Code 1968, § 16-33.1)

Secs. 15.30.330—15.30.400. Reserved.

DIVISION 5. WEIGHT LIMITS

Sec. 15.30.405. Overweight vehicles prohibited.

Except as hereinafter provided, no commercial vehicle having a manufacturer's rated gross vehicle weight exceeding ten thousand (10,000) pounds shall be operated on any street, highway or public way within the Town, other than those streets and highways described in section 15.30.410. This section shall not be so construed as to prohibit the operator of any commercial vehicle having a manufacturer's rated gross vehicle weight exceeding ten thousand (10,000) pounds coming from a street or highway designated in section 15.30.410 from having ingress and egress by direct route to and from streets restricted by this section ("connector streets") when necessary for the purpose of making pickups or deliveries of goods, wares and merchandise from or to any building or structure located on such restricted streets or for the purpose of delivering materials to be used in the actual and bona fide repair, alteration, remodeling or construction of any building, structure or facility upon such restricted streets for which a building or other permit has previously been obtained therefor or for the purpose of delivering or removing dirt, soil, rock, debris or other materials from the site.
(Code 1968, § 16-90; Ord. No. 1895, § II, 3-16-92)

Sec. 15.30.410. Authorized truck routes—Designated.

(a) Except as provided in Division 6 of this chapter, the following streets and highways or portions thereof within the Town are hereby designated truck routes and are authorized for use by operators of vehicles which exceed a maximum gross weight of ten thousand (10,000) pounds:

Blossom Hill Road.

Lark Avenue.

Los Gatos-Almaden Road.

Los Gatos Boulevard, any portion situated north of its intersection with Saratoga Avenue.

North Santa Cruz Avenue, any portion situated north of its intersection with Saratoga Avenue.

Saratoga Avenue.

Winchester Boulevard.

(b) Nothing in this division shall be interpreted to regulate commercial vehicular use of State Highway Nos. 17 and 85.
(Code 1968, § 16-91; Ord. No. 1895, § III, 3-16-92)

Sec. 15.30.415. Same—Posting of signs.

The Town Engineer shall, not later than thirty (30) days after the designation of any street or portion of a street as a truck route, erect and install appropriate signs designating those streets and highways or portions thereof as such.
(Code 1968, § 16-92)

Sec. 15.30.420. Reserved.

Editor's note—Section IV of Ord. No. 1895, adopted March 16, 1992, repealed former § 15.30.420, relative to application and filing fee for permits for movement of heavy vehicles, which derived from Code 1968, § 16-93.

Sec. 15.30.425. Reserved.

Editor's note—Section V of Ord. No. 1895, adopted March 16, 1992, repealed former § 15.30.425, relative to grounds and issuance of permits for movement of heavy vehicles, which derived from Code 1968, § 16-94.

Sec. 15.30.430. Special conditions applicable to movement of buildings.

The Town Engineer shall not issue a permit to move a building or structure until all construction and grading permits have been issued and all other Town approvals have been obtained for the project.
(Code 1968, § 16-95)

Sec. 15.30.432. Exemptions.

Nothing in this division shall limit use of Town Streets by vehicles owned or operated by the Town or a licensed contractor while necessary in the use in the construction, installation or repair of any Town facility, vehicles subject to Public Utilities Code Sections 1031 to 1036

inclusive, vehicles owned by a public utility or a licensed contractor while necessary in the use in the construction, installation or repair of any public utility or other provisions of the Town Code.
(Ord. No. 1895, § VI, 3-16-92)

Sec. 15.30.435. Reserved.

Editor's note—Section VII of Ord. No. 1895, adopted March 16, 1992, repealed former § 15.30.435, relative to appeals against denial of issuance of permits for movement of heavy vehicles, which derived from Code 1968, § 16-96.

DIVISION 6. LIMITED USE OF STREETS BY PERMIT FEES

Sec. 15.30.505. Purpose.

The purpose of this division is to regulate heavy or oversized vehicles and hauling activities on Town streets.
(Ord. No. 1895, § VIII, 3-16-92; Ord. No. 1984, § I, 7-18-94)

Sec. 15.30.510. Hauling defined.

For the purpose of this division, "hauling" shall be defined as the transportation, on and upon Town streets, of any material in a commercial vehicle, the gross weight of which exceeds ten thousand (10,000) pounds resulting from or to be used in any construction project.
(Ord. No. 1895, § VIII, 3-16-92)

Sec. 15.30.515. Heavy vehicles defined.

For the purpose of this division, "heavy vehicles" shall be defined as vehicles that exceed the maximum limits specified by article 1 of chapter 5, division 15 of the California Vehicle Code, commencing at section 35550.
(Ord. No. 1895, § VIII, 3-16-92; Ord. No. 1984, § II, 7-18-94)

Sec. 15.30.520. Regulated activity defined.

For the purposes of this division, "regulated activity" shall be defined as:

(a) Hauling; or

(b) The movement of a heavy vehicle; or

(c) Operation or movement of vehicle or combination of vehicles or special mobile equipment of a size exceeding the maximum specified in the California Vehicle Code; or

(d) Operation or movement of a vehicle carrying a load as defined in Vehicle Code section 35780.5.

(Ord. No. 1895, § VIII, 3-16-92; Ord. No. 1984, § III, 7-18-94)

Sec. 15.30.525. Application for permit.

Any person desiring to undertake a regulated activity as defined in section 15.30.520 within the Town, shall file an application for a permit to do so with the Town Engineer, except as specifically exempted pursuant to section 15.30.432, on the form and in the manner prescribed by the California Department of Transportation pursuant to Vehicle Code section 35781, or should no such form have been prescribed, the application shall set forth the following information:

(a) A full identification, and the residence and business address of the applicant, including all members of any firm or partnership, and the president and secretary of any corporation applying; if the applicant is the agent or employee of any person for whose benefit the permit is requested, this fact, with the full identification of such person and his business and residence address.

(b) The facts constituting the necessity for the regulated activity.

(c) The amount of material expected to be hauled, in tons.

(d) The dates on which the regulated activity is intended to be commenced and completed, and the times of day during which the regulated activity is intended to be done.

(e) The particular streets over which a permit to operate is requested.

(f) The time interval between vehicles and the number of vehicles per hour, which will travel over the route for which the permit is applied.

(g) The location of the place or places of delivery of the heavy vehicle or materials, provided, however, that if delivery of materials is to be made in small quantities to numerous places, a general description satisfactory to the Town Engineer of the locations of the contemplated deliveries will be sufficient.

(h) A specific description of the vehicle or vehicles and load to be operated or moved.

(i) Whether such permit is requested for a single trip or for continuous operation.

(j) Such further information as the Town Engineer may require.

(Ord. No. 1895, § VIII, 3-16-92; Ord. No. 1984, § IV, 7-18-94)

Sec. 15.30.530. Permit fee.

(a) As a condition to the issuance of a permit, the permittee shall pay to the Town at the office of the Town Engineer a fee for the issuance of said permit in an amount hereinafter specified.

(b) The fee for the issuance of the same as the fee charged by the California Department of Transportation and listed in 21 California Code of Regulations section 1411.3.

(c) Special services required for evaluating applications for and supervising unusually large or heavy loads, such as engineering investigations, escorts, tree trimming, and arborist evaluations, shall be billed separately for each permit on an actual cost basis.

(d) No application for a permit for a regulated activity shall be subdivided to avoid payment of a fee or any other requirements of this division, and the fees established by this division shall be in addition to any other traffic mitigation or road impact fees that may apply to the underlying project and in addition to any applicable State or other local agency fee.
(Ord. No. 1895, § VIII, 3-16-92; Ord. No. 1984, § IVA, 7-18-94)

Sec. 15.30.535. Reserved.

Editor's note—Ord. No. 1984, § V, adopted July 18, 1994, repealed former § 15.30.535, relative to the payment of permit fees, which derived from Ord. No. 1895, § VIII, adopted March 16, 1992.

Sec. 15.30.540. Reserved.

Editor's note—Ord. No. 1984, § VI, adopted July 18, 1994, repealed former § 15.30.540, relative to the deposit of permit fees, which derived from Ord. No. 1895, § VIII, adopted March 16, 1992.

Sec. 15.30.545. Issuance of permit; designation of routes.

(a) The Town Engineer shall issue a permit pursuant to this division upon acceptance of a completed application and upon payment of the required fee therefor, and upon the determination by the director that the regulated activity for which such permit is requested reasonably requires the use of Town streets as the director deems necessary to protect the public health and safety.

(b) The Town Engineer shall establish, and the permit shall specify the route or routes over which all vehicles subject to the permit shall travel, and such vehicles shall travel only directly over such route, or routes, as the Town Engineer determines to be the least dangerous to public safety, and which shall cause the least interference with general traffic and the least damage to public streets.
(Ord. No. 1895, § VIII, 3-16-92)

Sec. 15.30.546 Conditions of permit.

The Town Engineer shall determine, and the permit shall specify, the conditions of use, including, but not limited to, the following:

(a) The gross weight limit of each vehicle which shall be authorized under the permit.

(b) The time interval between vehicles, and the number of vehicles per hour which shall be permitted to travel over the route specified.

(c) The hours of the day and the days of the week during which such vehicles shall be permitted to travel over the route.

(d) The total number of yards or pounds of material which may be hauled subject to the permit.

(e) The period during which the permit is effective.
(Ord. No. 1895, § VIII, 3-16-92)

Editor's note—The provisions contained in the above section, enacted by § VIII of Ord. No. 1895 as § 15.30.545, have been redesignated as § 15.30.546 at the discretion of the editor to avoid duplicative section numbering.

Sec. 15.30.550. Appeals against denial.

Any applicant aggrieved by a determination of the Town Engineer not to issue a permit pursuant to this division or by the conditions attached thereto in the event such permit is issued, may appeal therefrom to the Town Council by filing a written notice of appeal with the Town Clerk not later than seven (7) days after the determination of the Town Engineer. The Town Council shall hold a hearing thereon as soon as its business will allow, and at the conclusion of the hearing, shall fully decide the matter.
(Ord. No. 1895, § VIII, 3-16-92)

Sec. 15.30.555. Display of permit.

Every permit issued hereunder shall be carried in the vehicle or combination of vehicles to which it refers and shall be open to inspection of any peace officer or traffic officer, or any other officer or employee charged with the care of protection of the Town streets.
(Ord. No. 1895, § VIII, 3-16-92)

Sec. 15.30.560. Violation.

In addition to any criminal liability authorized by this Code, any operator of a commercial vehicle and any sponsor or developer of a project for which a permit is required by this division shall be liable for a payment of a civil penalty in an amount three times an amount determined adequate to compensate the Town for damages to public streets and property.
(Ord. No. 1895, § VIII, 3-16-92)

ARTICLE IV. STOPPING, STANDING AND PARKING*

DIVISION 1. GENERALLY

Sec. 15.40.010. Applicability of parking regulations.

(a) The provisions of this article prohibiting the stopping, standing, or parking of a vehicle shall apply at all times or at those times herein specified, except when it is necessary to stop a vehicle to avoid conflict with other traffic or in compliance with the directions of a Police Officer or official traffic-control device.

*Cross reference—Off-street parking on narrow streets in subdivisions, § 24.50.030.

(b) The provisions of this article imposing a time limit on standing or parking shall not relieve any person from the duty to observe other and more restrictive provisions of the State Vehicle Code, or the regulations of this Town, prohibiting or limiting the standing or parking of vehicles in specified places or at specified times.
(Code 1968, § 16-44)

Sec. 15.40.015. Parking regulation.

When provided by resolution of the Town Council and appropriate signs or markings are in place giving notice, no person shall stop, stand or park any vehicle on any highway in the Town or in any off-street parking facility the Town owns or operates at a time or for a longer period than such resolution provides.
(Code 1968, § 16-45)

Sec. 15.40.020. Removal of illegally parked vehicles—Authorized.

When provided by resolution of the Town Council, the Chief of Police or any regularly employed and salaried employee of the Town who is engaged in directing traffic or enforcing parking laws and regulations and who is designated by the Chief of Police may remove a vehicle from a highway when the vehicle is parked or left standing under circumstances prohibited by such resolution. No vehicle may be removed unless signs are posted warning of the circumstances under which vehicle removal will occur.
(Code 1968, § 16-46.1)

Sec. 15.40.025. Same—Provisions for, storage.

Removal of vehicles under the provisions of section 15.40.020 may be done by employees of the Town or persons engaged by the Town to do such work. The Town Manager is authorized

Vehicle Code, or the regulations of this Town, prohibiting or limiting the standing or parking of vehicles in specified places or at specified times.
(Code 1968, § 16-44)

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(Code 1968, § 16-46.1)

Sec. 15.40.025. Same—Provisions for, storage.

Removal of vehicles under the provisions of section 15.40.020 may be done by employees of the Town or persons engaged by the Town to do such work. The Town Manager is authorized

Chapter 11.28

RESTRICTED USE OF STREETS*

Sections:

11.28.010 Central traffic district--Prohibited vehicles.
11.28.020 Central traffic district--Animal-drawn vehicles.
11.28.030 Truck traffic routes--Designation authority--Exceptions.
11.28.040 Truck traffic routes--Use required--Exceptions.
11.28.050 Truck traffic routes--Schedule.
11.28.060 Signs.
11.28.080 Skateboards and bicycles.

11.28.010 CENTRAL TRAFFIC DISTRICT — PROHIBITED VEHICLES. (a) No person shall operate any of the following vehicles in the central traffic district between the hours of ten a.m. and six p.m. of any day:

(1) Any freight vehicle more than eight and one-half feet in width, with load, or any freight vehicle so loaded that any part of its load extends more than twenty feet to the front or rear of such vehicle;

(2) Any vehicle carrying building material that has not been loaded, or is not to be unloaded, at some point within the central traffic district;

(3) Any freight vehicle with a trailer;

(4) Any vehicle conveying refuse, rubbish or garbage;

(5) Any vehicle carrying crude or fuel oil.

(b) Provided that, the chief of police may by written permit authorize the operation of any such vehicle for the purpose of making necessary emergency deliveries to or from points within the central traffic district. (Ord. 1977-8 § 3, 1977: prior code § 73.33).

11.28.020 CENTRAL TRAFFIC DISTRICT — ANIMAL-DRAWN VEHICLES. No person shall drive any animal-drawn vehicle into or within the central traffic district at any time, except when it is a part of a parade held and conducted with a city permit. (Ord. 1977-8 § 4, 1977: prior code § 73.37).

11.28.030 TRUCK TRAFFIC ROUTES — DESIGNATION AUTHORITY — EXCEPTIONS. Whenever any provision of this code designates or describes any street, or streets, portions thereof, as a street, or streets, the use of which is permitted by any commercial vehicle, or by any vehicle exceeding the maximum gross weight of three tons, the city manager is authorized to designate such street, or streets, or portions thereof, by approaching signs as "truck traffic routes" for the movement of commercial vehicles and vehicles exceeding the maximum gross weight limit of three tons. No such provision shall be effective with respect to any highway which is not under the exclusive jurisdiction of the city, or in the case of any state highway, until such proposed provision has been submitted by the city council to, and approved in writing by,

* For statutory provisions regarding size, weight and load restrictions see Cal. Veh. C.A. § 35000 et seq. For the statutory authority of cities to set by ordinance a maximum gross weight allowable on certain streets see Cal. Veh. C.A. § 35701.

the department of public works. No such provision shall prohibit any commercial vehicles coming from an unrestricted street having ingress or egress by direct route to and from a restricted street when necessary for the purpose of making pickups or deliveries of goods, wares and merchandise from or to any building or structure located on such restricted street, or for the purpose of delivering materials to be used in the actual and bona fide repair, alteration, remodeling or construction of any building or structure upon such restricted street for which a building permit has previously been obtained therefor. No such provision shall apply to any vehicle owned by a public utility while necessarily in use for the construction, installation or repair of any public utility. (Prior code § 73.38 (a)).

11.28.040 TRUCK TRAFFIC ROUTES — USE REQUIRED — EXCEPTIONS. When any such truck traffic route or routes are established and designated by appropriate signs, the operator of any commercial vehicle, or any vehicle exceeding a maximum gross weight limit of three tons, shall drive on such route or routes and none other, except when necessary to traverse another street or streets for the purpose of making pickups or deliveries of goods, wares and merchandise from or to any building or structure located on a restricted street or streets, or for the purpose of delivering materials to be used in the actual and bona fide repair, alteration, remodeling or construction of any building or structure upon such restricted street, for which a building permit has been previously obtained therefor, but then only by such deviation from the nearest truck route as is reasonably necessary. The provisions of this section shall not apply to any vehicle owned by a pubic utility while necessarily in use in the construction, installation or repair of any public utility. (Prior code § 73.38 (b)).

11.28.050 TRUCK TRAFFIC ROUTES — SCHEDULE. The following are designated as streets the use of which is permitted to any commercial vehicle or to any vehicle exceeding the maximum gross weight of three tons; except as may be limited on any particular street as set forth hereafter:

(1) Route 101 (Bayshore Freeway)
(2) Route 82 (El Camino Real)
(3) Route 92 (J. Arthur Younger Freeway)
(4) East Hillsdale Boulevard, between Bayshore Freeway and El Camino Real;
(5) East Third Avenue, from the easterly city limits to Route 101 between the hours of eight-thirty a.m. to four-thirty p.m. eastbound;
(6) East Third Avenue, between Route 101 and South Claremont Street;
(7) East Fourth Avenue, between Bayshore Freeway and South Claremont Street;
(8) South Claremont Street, between East Third Avenue and Ninth Avenue;
(9) The southerly side of Peninsula Avenue, between Bayshore Freeway and El Camino Real;
(10) North Bayshore Boulevard between Peninsula Avenue and East Poplar Avenue. (Ord. 1987-20 § 1, 1987; Ord. 1980-2 § 1, 1980; Ord. 1969-25 § 1, 1969: prior code § 73.38(c)).

11.28.060 SIGNS. Whenever any resolution of this city designates and describes any street or portion thereof as a street, the use of which is prohibited by any commercial vehicle or by any vehicle exceeding a maximum gross weight limit of three tons, the city manager shall erect and maintain appropriate signs on those streets affected by such resolution. No such

Trucks Observed on Doherty Drive
November 1999

1. AAA Tow
2. Aardvark
3. ABC Construction
4. Alliant
5. Aloha
6. Angelica
7. Aramark
8. Baker Moving & Storage
9. Big Four Rentals
10. California Supply
11. Car Carriers (no name)
12. CF Trucking
13. Chlorine Truck (no name)
14. CWX
15. Davey's Tree Service
16. Diablo Construction
17. Durkee
18. F.F. Trucking
19. Forde
20. Golden Gate Lumber
21. Golden Gate Transit (empty)
22. Good Guys
23. Handi Cup
24. Harcor
25. Hertz Storage (container trucks & moving vans)
26. ICF Enterprises
27. INO Com.
28. Kitchen Aid
29. Lucky
30. Marin Municipal Water District
31. Marin Sanitary Service
32. Mayflower
33. Mc Kinney
34. Milestone
35. Mill Valley Refuse
36. Miller
37. Motor Cargo
38. North Bay Lumber
39. Orowheat
40. Pepsi
41. Petaluma
42. PG&E (large trucks and trucks with trailers with tractors)
43. Ray's Sewer Service
44. Red Dog
45. Rich's Concrete (cement trucks & trucks with trailers)
46. Seven - Up
47. Shamrock
48. Sysco
49. Tartan
50. Town of Corte Madera (trucks with trailers)
51. United Moving & Storage
52. Various Unmarked trucks
53. Viking
54. Webvan
55. XTRA
56. Zellerbach

EXHIBIT E

Charles M Salter Associates Inc

16 October 1991

Charles Maltzahn
71 Riviera Circle
Larkspur, CA 94939

Subject: Greenbrae Marina/Doherty Drive --
Acoustical Consulting
CSA Project No: 91-277

Dear Mr. Maltzahn:

We have completed our traffic noise analysis. This letter summarizes our analysis and presents our findings.

The purpose of our analysis was to quantify the outdoor noise environment at your residence and investigate alternatives for controlling noise from traffic on Doherty Road. Our analysis included a noise measurement in the backyard of your home and calculations to estimate the effectiveness of noise barriers. In summary, we found that the existing noise level exceeds the City of Larkspur's outdoor noise goal. Reducing traffic noise to the City's goals could be accomplished by constructing a 9-foot-high solid-wood fence (e.g., 1-inch-thick plywood) with no cracks or gaps . Rebuilding the existing fence so that it is solid with either wood or masonry would result in a just noticeable reduction in traffic noise levels and would not achieve the City's outdoor noise goal.

NOISE MEASUREMENTS

On the morning of 15 October 1991, we performed a 15-minute (8:55 am - 9:10 am) noise measurement in the backyard. The sound level meter was located 20 feet from the property line fence and 5-1/2 feet high (ear height of a standing person).

The measured A-weighted average noise level (L_{eq})[1] was 58 dB. During the 15-minute measurement, approximately 150 vehicles passed by on Doherty Road. The loudest single-event was a motorcycle passby which generated a maximum A-weighted noise level of 69 dB. No trucks were observed during our measurement. We estimate a heavy truck would generate a maximum A-weighted noise level of 80 dB in the backyard.

According to the Circulation Element of the City's General Plan, the traffic volume along Doherty Road is 8800 vehicles per day (from a 1988 count). Based on a comparison of this daily traffic with our 15-minute noise measurement and traffic count, we estimate the Day-Night Average sound level (L_{dn})[2] is 61 dB in the backyard.

CITY OF LARKSPUR NOISE GOALS

The Noise Element of the City of Larkspur's General Plan (1990) contains goals and policies regarding noise compatibility of residential land use. The City's goal for outdoor noise levels in residential areas is an L_{dn} of 55 dB. Some of the goals and policies in the General Plan specifically address reduction of noise levels in existing residential areas. For example:

> Goal 12: Reduce noise levels in areas where the existing noise exceeds "normally acceptable" levels, to levels compatible with land uses in those areas, as defined in Figure 7-9 "Land Use Compatibility Standards."
>
> Policy W: Promote educational efforts that will encourage the Citizens of Larkspur to improve their noise environments.

The Noise Element also contains noise exposure contours which quantify the future noise levels projected for Larkspur. These contours show the first row of residential uses along Doherty Drive to be exposed to a future L_{dn} of 65 dB.

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[1]Equivalent Noise Level (Leq)--The equivalent steady-state A-weighted sound level that, in a stated period of time, would contain the same acoustic energy as the time-varying sound level during the same time period. A-weighting is a standard frequency weighting which is commonly employed to measure the loudness or "noisiness" of sounds. A-weighting filters the microphone signal in a manner which correlates better with the sensation of the human ear.

[2]Day-Night Average Sound Level (DNL or L_{dn})--A descriptor established by the U.S. Environmental Protection Agency to describe the average day-night level with a penalty applied to noise occurring during the nighttime hours (10 pm - 7 am) to account for the increased sensitivity of people during sleeping hours.

NOISE BARRIERS

Noise barriers reduce noise by blocking the direct path (i.e., line-of-sight) of sound propagation between the source and receiver. The remaining sound paths are over the barrier and through the barrier. Sound that goes over the barrier reaches the receiver because the sound is bent at the top edge of the barrier. This bending is known as diffraction, a physical characteristic of all wave propagation. The taller the barrier is, the greater the angle the sound must bend to reach the receiver, and the more the sound is attenuated. The sound path through the barrier (i.e., transmission) is reduced because the barrier is solid and massive. The enclosed figure shows these noise paths. A properly constructed outdoor noise barrier reduces the transmitted noise so that it is insignificant compared to the diffracted noise. That is, the sound going over the barrier is much louder than the sound transmitted through the barrier, and the transmitter noise does not contribute significantly to the sound level at the receiver. This requires that the barrier is solid with no cracks or gaps and has a minimum surface density of two pounds per square foot.[3] This minimum surface density can be achieved with 1-inch-thick plywood.

RECOMMENDATIONS

We have modeled the traffic noise and the effectiveness of fences of various heights using the Federal Highway Administration's Traffic Noise Prediction Model (FHWA-RD-77-108). Based on our analysis, we estimate that the existing fence is currently providing approximately 3 dB of traffic noise reduction. In other words, the sound level in the backyard would increase by 3 dB if the fence were removed entirely. The acoustical effectiveness of the fence is seriously compromised by the cracks and gaps where the butted wood slats have separated. If the fence were reconstructed or improved (with 1-inch-thick wood or masonry) so that it had no cracks or gaps and the height remained the same, we estimate noise levels in the backyard would decrease by approximately 3 dB. This is a small reduction and would be just noticeable. To achieve a more noticeable reduction and a backyard noise level which is consistent with the City's goal for noise in outdoor use areas, a fence of approximately 9 feet high should be built. Again, this fence could be masonry or solid wood with no cracks or gaps. We estimate a 9-foot-fence would reduce existing backyard noise levels by 7 dB. Since the fence would be limited to your backyard only, noise can "flank" around the sides. To minimize this, the 9-foot fence should be returned along your western property line approximately 15 feet. On the east side of your backyard, the house will effectively shield the traffic noise.

[3]Handbook of Acoustical Measurements and Noise Control, Third Edition, Cyril M. Harris, 1991.

* * *

This concludes our discussion. If you have any questions or would like us to review the design of any proposed fence, please feel free to call.

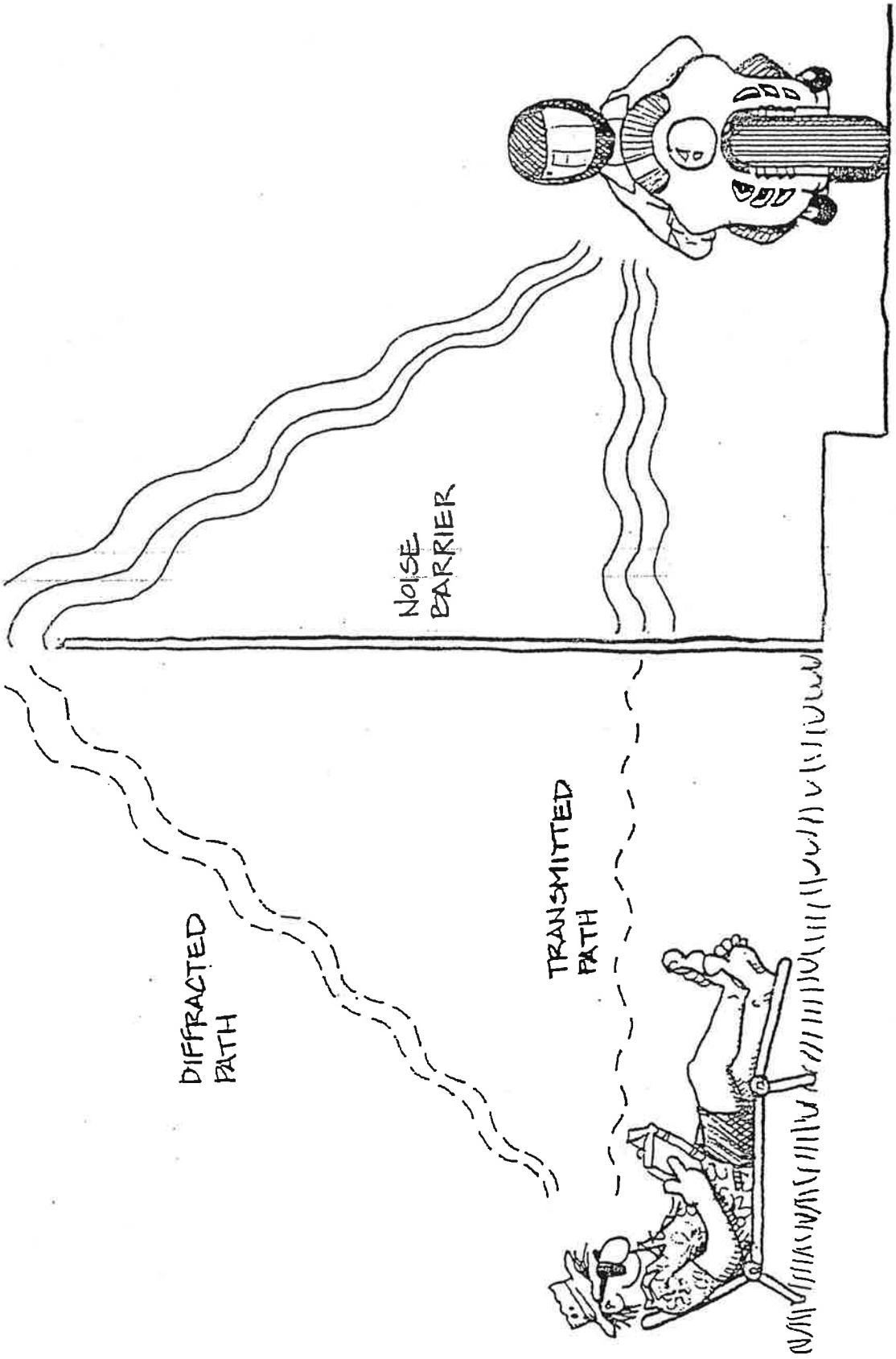
Yours truly,

Harold S. Goldberg, P.E.
Principal Consultant

HSG/ck

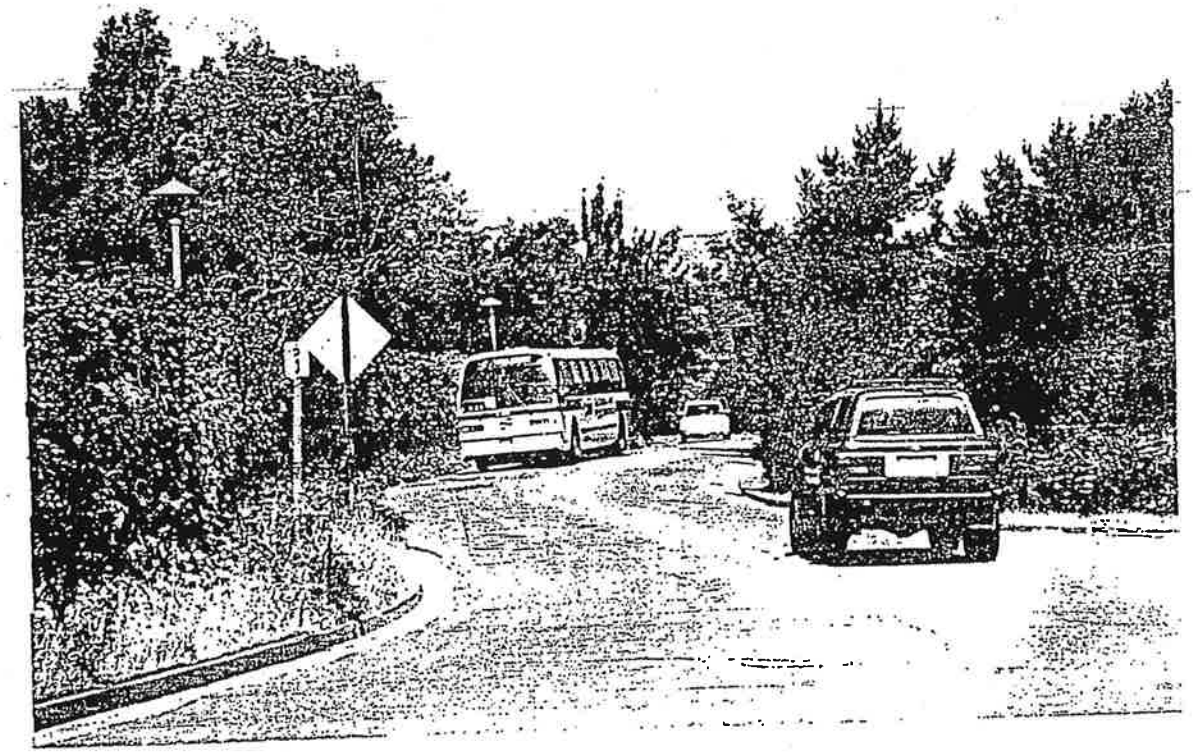
encl.

oc16hsg.doc



HOW A NOISE BARRIER WORKS

EXHIBIT F



City of Larkspur

CENTRAL LARKSPUR SPECIFIC PLAN COMMITTEE

Steering Committee Meeting #5

Kreps Conference Room – Redwood High School
395 Doherty Drive (East Parking Lot at Redwood High School)

January 20, 2000
7:30-9:30PM

AGENDA

7:30 **1. Welcome**

- Agenda Overview
- December 16 Meeting Notes
- Committee Update
- Confirm meeting schedule

7:45 **2. Workshop: Existing Traffic Conditions**

The project traffic consultants, Wilbur Smith Associates, will present an analysis of existing traffic conditions. The presentation will include recent traffic counts and ten-year trends, intersection conditions, speed and pedestrian safety issues in the project area, and planning approaches to dealing with traffic. This analysis will be one basis for developing the Specific Plan. The analysis of existing conditions will also be part of the project EIR.

- Consultant presentation
- Committee discussion
- Public comments
- Wrap up

9:25 **3. Next Steps**

The next Committee meeting is scheduled for February 3. We will begin to examine planning options for properties in the project area..

9:30 **4. Close**

City of Larkspur

CENTRAL LARKSPUR SPECIFIC PLAN COMMITTEE

Meeting Notes
Meeting #4

December 16, 1999
Hall Middle School Gymnasium
200 Doherty Drive

Specific Plan Committee

Alan Bear*
William Broughan
Debora Busse*
Monte Deignan
Maryjane Dunstan
Susan Gilardi
**Alternate member*

Helen Heitkamp
Deborah Lundberg
Joan Lundstrom
Chris McCluney*
Shawn Nazari
Cyndi Niven

Myles O'Dwyer
Joe Prickett
Judy Saffran
Joe Stone
Molly White

Absent

Scott Churchill
Nancy Curley
Larry Lanctot

Maurice Palumbo
Molly White

City of Larkspur

Thomas Cooke. Planning Consultant
Joan Lamphier, Planning Consultant

Robert Pendoley, Planning Consultant
Jan Vazquez, Planning Director

Central Larkspur Area Specific Plan
Existing Conditions Transportation Report

INTRODUCTION

This report provides a description of the existing transportation conditions in the vicinity of the Central Larkspur Area Specific Plan (CLASP). Included in this report are descriptions of the existing roadway network and the documentation of the existing traffic, pedestrian, bicycle, transit, and parking conditions. **Figure 1** illustrates the project location in a regional context.

The Larkspur City Council has defined the CLASP area to include the 16.8 acre Niven property, the Nazari property and Larkspur Shopping Center which comprise 12 acres and portions of Doherty Drive. The Specific Plan area is located in and adjacent to the downtown center. The Niven property has frontage on Doherty Drive and is occupied by a commercial nursery and greenhouses. The Nazari property is occupied by retail and commercial uses and has frontage on Magnolia Avenue. The City Council has directed that the Specific Plan be consistent with the General Plan, Downtown Specific Plan, the goals for the Niven Nursery site, and the Downtown Parking Plan.

The CLASP transportation study area extends beyond the defined boundaries of the Specific Plan. The transportation study area is designed to provide a comprehensive network on which potential traffic impacts related to the implementation of the Specific Plan can be assessed in the future. The transportation study area is shown in **Figure 2**. The study area extends north past the intersection of Magnolia Avenue/Bon Air Road, south to the intersection of Magnolia Avenue/King Street and covers the length of Doherty Drive, portions of Lucky Drive and the access ramps on the east side of Highway 101.

SETTING

Existing Roadway Network

Regional access to Larkspur is provided primarily by Highway 101, Interstate 580 and Sir Francis Drake Boulevard. Three arterial roads serve Larkspur: Sir Francis Drake Boulevard, Magnolia Avenue and Doherty Drive. **Figure 2** illustrates the area roadway network. A detailed description of these facilities and other key Specific Plan Area roads is provided below.

Regional Access

Highway 101 (U.S. 101): U.S. 101 is the major north-south freeway serving Marin County. U.S. 101 connects Marin County to San Francisco, the Peninsula and points south. In a northerly direction U.S. 101 accesses the Petaluma, Santa Rosa areas and points north. In the vicinity of the project site the highway is an eight-lane facility (four lanes in each direction) including two high occupancy vehicle (HOV) lanes. Highway

Welcome

Susan Gilardi, Committee Chairperson, called the meeting to order at 7:30PM.

We accepted the October 14 Meeting Notes.

Bob Pendoley gave a progress report on the 2050 project.

Environmental Opportunities and Constraints

Our environmental consultant, **Joan Lamphier** introduced the presentation. **Joan** explained that the Environmental Constraints and Opportunities Report follows the basic topic organization used for Environmental Impact Reports. The two most important environmental constraints in the project area are wetlands and traffic. Tonight's presentation will focus on wetlands. A report on traffic conditions will be distributed next month for a workshop on January 20, 2000. **Tom Cooke** will present an analysis of aesthetic constraints and opportunities later in the process.

Michelle Orr gave a summary of hydrologic conditions. The Niven property was originally a small peninsula jutting into salt marsh. The property was filled over time, and now only a small area is subject to flooding. Portions of City-owned property along the Larkspur Creek, which borders the east and south boundaries of the Niven property, are wetlands. Tidal influence extends for an indeterminate distance on the eastern reach of the creek. This area is subject to Corps of Engineers jurisdiction. Other portions of the creek may be subject to California Department of Fish and Game (CDFG) jurisdiction, depending on the kind of activity that is proposed. The Corps and CDFG comment on EIR's that involves proposals in or near their jurisdictional boundaries. The Corps and CDFG typically recommend setbacks on a case-by-case basis.

Helen Faber explained the characteristics of the wetlands in the project area. **Faber** stressed that the wetlands are an opportunity to add an amenity to the project area.

Joe Prickett asked when noise setbacks will be determined? **Joan Lamphier** responded that noise setbacks will be determined as the plan is developed and may also be set as mitigation measures in the EIR.

A member of the audience asked whether the 1984 FEMA maps are adequate as a source of information on flooding and whether upstream flood control projects will impact the project area? **Michelle Orr** explained that FEMA data is only one source of data used to study flooding. She verified that planned upstream flood control will not impact the project area.

Joe Prickett asked how the potential water quality impacts from development on the property would be mitigated? **Lamphier** explained that the Regional Water Quality Control Board requires a variety of mitigation programs to protect water quality

Joan Lundstrom announced there will be a public workshop in January to discuss the downstream impacts of a flood control project that is being proposed for the Kentfield area.

Next Steps

Our next meeting is scheduled for January 20, 2000. The meeting will be a workshop on existing traffic conditions.

Close

We adjourned at 9:30pm.

interchanges in the general vicinity of the study area are provided at Tamalpais Drive, Madera Boulevard, Lucky Drive and Sir Francis Drake Boulevard. Estimates of average daily traffic (ADT) on U.S. 101 in Larkspur range from 174,000 vehicles south of Sir Francis Drake Boulevard to 150,000 vehicles north of Sir Francis Drake Boulevard.

Interstate 580 (I -580): North of the study area, U.S. 101 intersects with (I-580), a four lane freeway extending east to the Richmond-San Rafael Bridge, and beyond to Contra Costa County. I-580 carries an estimated 52,000 daily vehicles at the U.S.101 intersection.

Local Access

Local access to and from the Specific Plan Area is typically carried on the city's three arterial roads: Sir Francis Drake Boulevard, Magnolia Avenue or Doherty Drive. Circulation within Larkspur is constrained by Corte Madera Creek, located immediately north of the study area. Roads located in the study area which cross the creek include U.S. 101 and Bon Air Road (which connects Sir Francis Drake Boulevard to Magnolia Avenue). City residents may also cross the creek on College Avenue at its location south of the College of Marin, near the western edge of Larkspur.

Sir Francis Drake Boulevard: Sir Francis Drake Boulevard is the major east-west corridor serving Central Marin County and is identified as a major arterial street in the General Plan. West of U.S. 101 the roadway provides four travel lanes (two in each direction) and carries a weekday ADT volume of 47,720 vehicles. On Saturdays the estimated ADT volume is 38,330 vehicles. The Specific Plan Area is linked to Sir Francis Drake Boulevard via Bon Air Road at Magnolia Avenue and from Magnolia Avenue north to College Avenue.

Sir Francis Drake Boulevard provides a full interchange at U.S. 101, and is a primary route for vehicles traveling westbound to San Rafael and West Marin County. This roadway drops two-lanes west of College Avenue (one in each direction) into the Town of San Anselmo. The bottleneck created west of College Avenue combined with heavy traffic flows results in significantly congested conditions during peak periods.

Magnolia Avenue: Magnolia Avenue is identified as a secondary arterial in the General Plan. It is a north-south roadway with two travel lanes in each direction. To the south, the arterial street connection of Magnolia Avenue to U.S. 101 uses these Corte Madera city streets; Cote Madera Avenue; Redwood Avenue and Tamalpais Drive and connects to Sir Francis Drake Boulevard where it becomes College Avenue north of the study area. Magnolia Avenue serves the downtown business district between William Avenue to the south and Doherty Drive to the north. This segment provides sidewalks and on-street parking on both sides of the street. Daily counts taken on Magnolia Avenue between Ward Street and Doherty Drive recorded a weekday ADT volume of 15,680 vehicles and a Saturday ADT volume of 12,940 vehicles. ADT volumes north of Bon Air Road on Magnolia Avenue during the weekday were recorded at 14,110 vehicles and at 11,590 vehicles on Saturday.

Doherty Drive: Doherty Drive is identified as a secondary arterial in the General Plan. It is an east-west roadway between Magnolia Avenue and Lucky Drive providing one travel lane in each direction. The roadway is 40 feet wide (from curb-to-curb) and provides 10-foot parking lanes on both sides. Doherty Drive provides direct access to Hall Middle School, Redwood High School and access via Lucky Drive to U.S. 101. The segment between Magnolia Avenue and Redwood High School provides sidewalks on both sides, and carries a weekday ADT volume of 11,410 vehicles. On Saturdays the estimated ADT volume is 8,990 vehicles.

Bon Air Road: Bon Air Road crosses Corte Madera Creek and links Sir Francis Drake Boulevard and Magnolia Avenue. It is two-way facility (with generally one travel lane in each direction with added lanes south of Corte Madera Creek) which provides direct access to Marin General Hospital. Weekday ADT volumes are 13,080 vehicles west of South Eliseo Drive and an ADT of 9,900 vehicles on Saturdays.

Other roads in the vicinity of the study area include:

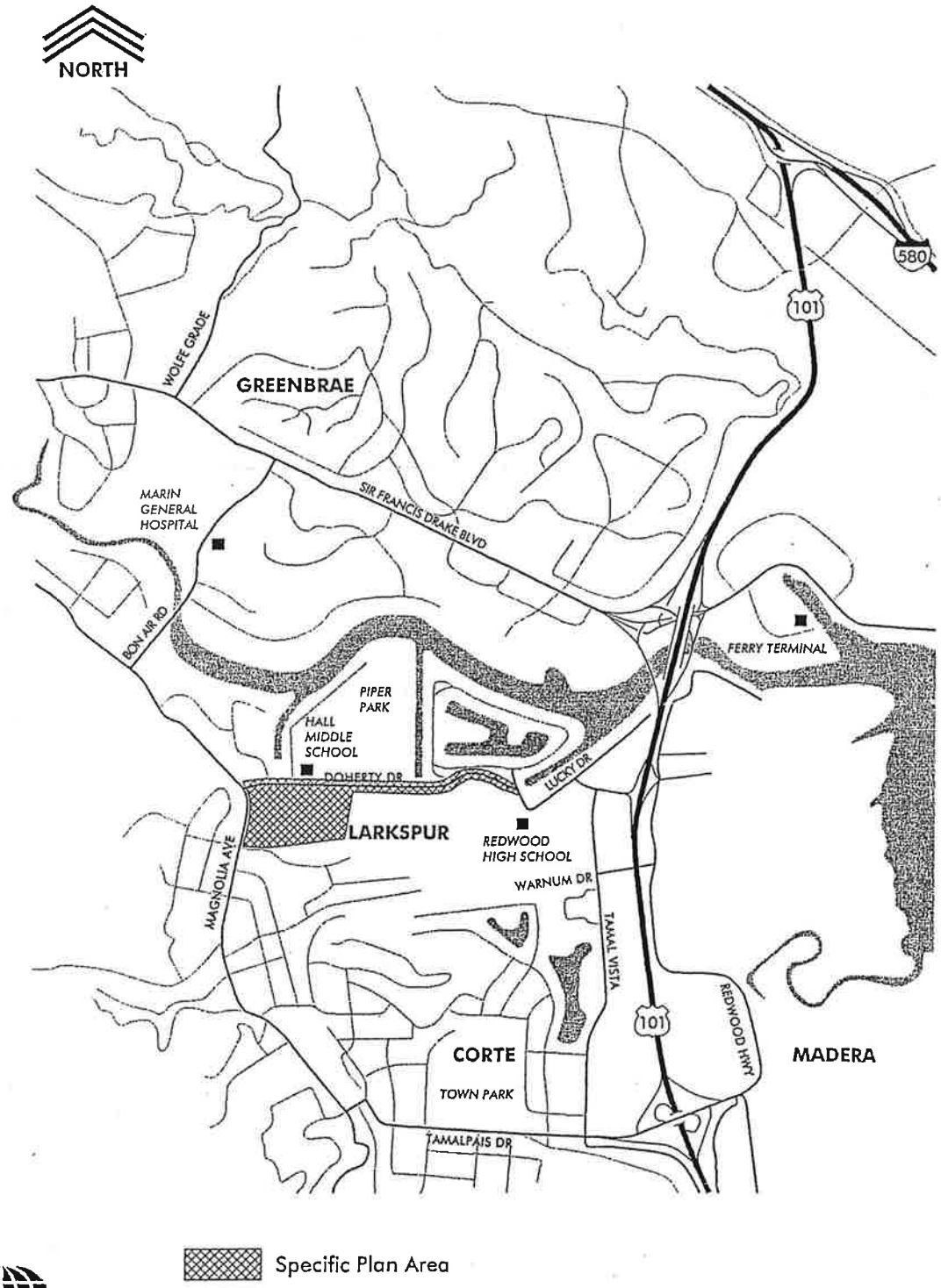
Larkspur Plaza: Larkspur Plaza runs northward from Doherty Drive and serves primarily as a collector street for residential uses. It is a two-way road with one travel lane in each direction, ending in a cul-de-sac. The intersection with Doherty Drive is stop sign controlled. Within the vicinity of the study area, there are approximately 10-foot wide sidewalks and on-street parking on the east side of the street.

Larkspur Boardwalk: Larkspur Boardwalk is a north/south, two-way road with one travel lane in each direction located off of Doherty Drive, west of and adjacent to Piper Park. At Doherty Drive this road is in close proximity to the Hall Middle School driveway and to Larkspur Plaza. Larkspur Boardwalk provides access to residential units and a boardwalk.

Riviera Circle: Riviera Circle makes a northward loop beginning and ending on Doherty Drive. The west end of the loop road forms a leg of the unsignalized intersection at Doherty Drive and the access driveway for Redwood High School. This road serves as a neighborhood collector street and provides a crosswalk at Doherty Drive to the high school.

Ward Street: Ward Street is an east-west street which crosses Magnolia Avenue at a signalized intersection south of Doherty Drive. It is a two-way road with one travel lane in each direction, extending for approximately three blocks and connecting to neighborhoods on east and west of Magnolia Avenue. East of Magnolia Avenue Ward Street becomes Meadowood Drive.

King Street: King Street is an east-west street which crosses Magnolia Avenue at an unsignalized four-way stop intersection south of Ward Street. It is a two-way road with one travel lane in each direction, extending for approximately three blocks and connecting to neighborhoods on east and west of Magnolia. East of Magnolia Avenue King Street eventually becomes Monte Vista Avenue.



WSA WILBUR SMITH ASSOCIATES

Figure 1
PROJECT LOCATION
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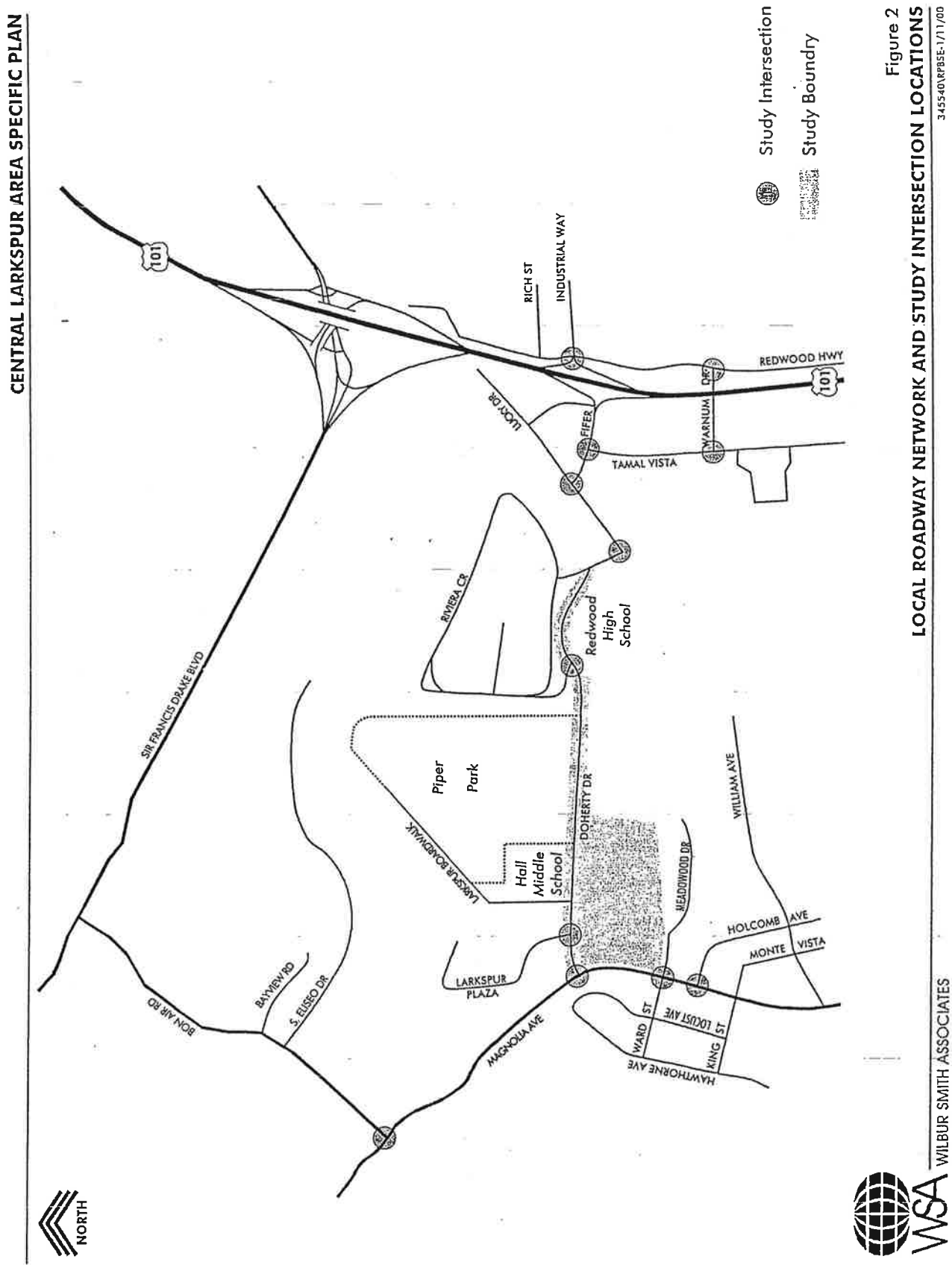
CENTRAL LARKSPUR AREA SPECIFIC PLAN
Study Intersection
Study Boundry
Figure 2
LOCAL ROADWAY NETWORK AND STUDY INTERSECTION LOCATIONS
34554O\RPBSE-1/11/00
WILBUR SMITH ASSOCIATES
NORTH
101
RICH ST
INDUSTRIAL WAY
REDWOOD HWY
DRAKE
WARNUM
FIFER
TAMAL VISTA
LUCY DR
RIVIERA CR
Redwood High School
SIR FRANCIS DRAKE BLVD
Piper Park
DOHERTY DR
LARKSPUR BOULEVARD
Hall Middle School
WILLIAM AVE
MEADOWOOD DR
HOLCOMB AVE
MONTE VISTA
LARKSPUR PLAZA
BAYVIEW RD
S. ELISEO DR
BON AIR RD
MAGNOLIA AVE
WARD ST
LOCUST AVE
KING ST
HAWTHORNE AVE

TRAFFIC OPERATING CONDITIONS

Existing traffic operating conditions were determined for key local intersections in the vicinity of the Specific Plan Area. Operating conditions were based recent intersection and roadway traffic count data collected in late September and early October 1999.[1] During the same time period seven consecutive days of 24 hour machine counts were taken a five locations in the study area. The locations of the machine counters include:

- Magnolia Avenue – Downtown (between Ward Street and Doherty Drive)
- Magnolia Avenue – north of Bon Air Road
- Bon Air Road – west of South Eliseo Drive
- Doherty Drive – vicinity of Piper Park
- Sir Francis Drake Boulevard – east of Bon Air Road

Local Intersections

The concept of Level of Service (LOS) was used to measure the operational performance of the study area intersections. Detailed analyses of the existing conditions were conducted for the weekday AM peak hour (generally 7:00 to 8:00 AM), PM peak hour (generally 5:00 to 6:00 PM) and for Saturday conditions (generally noon to 1:00 PM).

Twelve intersections in the area were analyzed as part of this study. The location of the study intersections and existing lane configurations are illustrated in **Figure 3**. The study intersections are listed below:

1. Bon Air Road/Magnolia Avenue
2. Doherty Drive/Magnolia Avenue
3. Ward Street/Magnolia Avenue
4. King Street/Magnolia Avenue
5. Doherty Drive/Larkspur Plaza
6. Doherty Drive/Riviera Circle
7. Lucky Drive/Doherty Drive
8. Lucky Drive/Fifer Avenue
9. Fifer Avenue/Tamal Vista Boulevard
10. Warnum Drive/Tamal Vista Boulevard
11. Warnum Drive/Redwood Highway
12. U.S. 101 NB On-ramp/Industrial & Redwood Highway

The Level of Service (LOS) of an intersection is a measure of the ability of the intersection to accommodate traffic volumes. Intersection Level of Service ranges from

[1] Data collected by Wilbur Smith Associates.

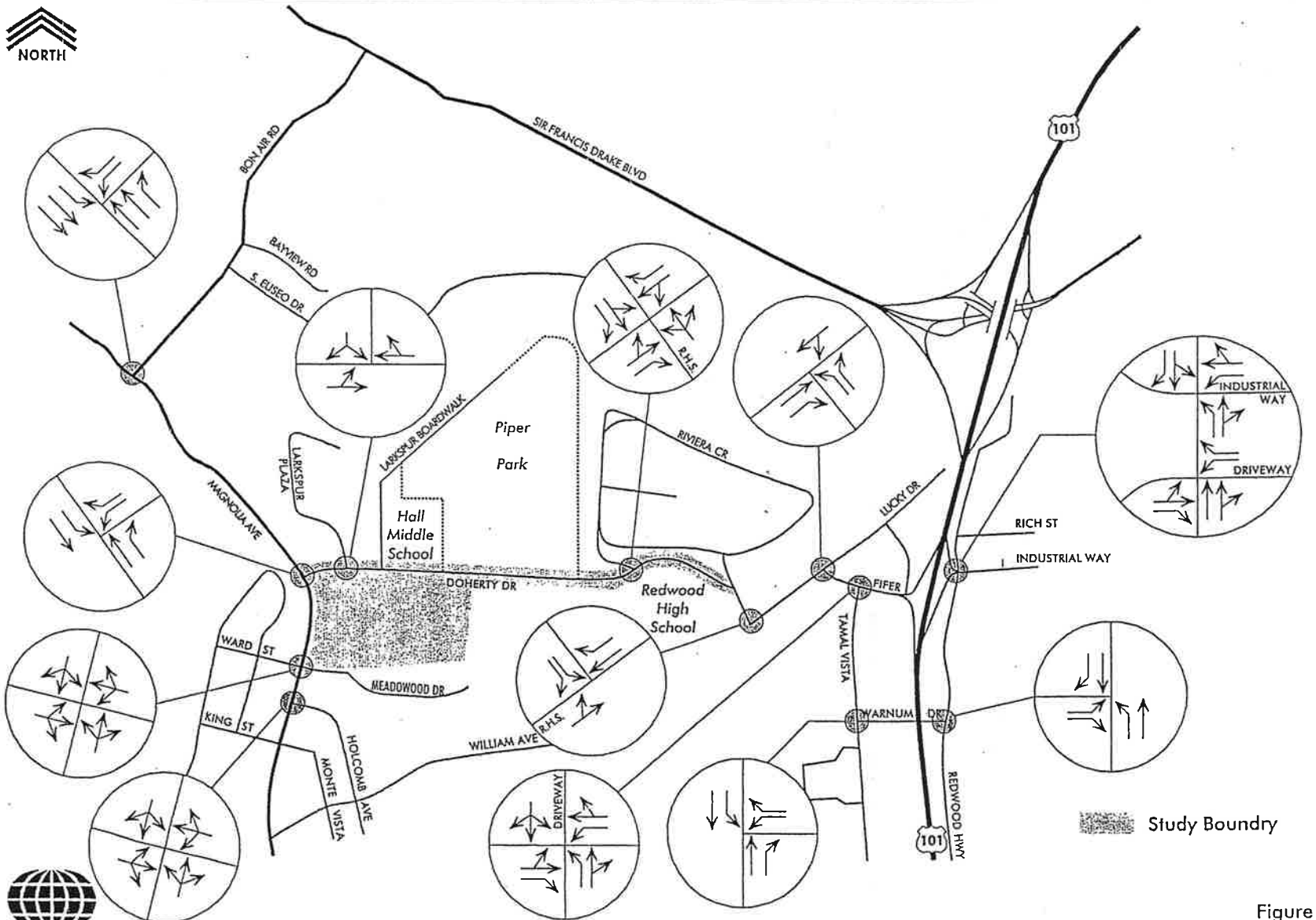

Figure 3
EXISTING LANE GEOMETRIES

WSA WILBUR SMITH ASSOCIATES

345540\RPBSE-1/11/00

TRAFFIC OPERATING CONDITIONS

Existing traffic operating conditions were determined for key local intersections in the vicinity of the Specific Plan Area. Operating conditions were based recent intersection and roadway traffic count data collected in late September and early October 1999.[1] During the same time period seven consecutive days of 24 hour machine counts were taken a five locations in the study area. The locations of the machine counters include:

- Magnolia Avenue – Downtown (between Ward Street and Doherty Drive)
- Magnolia Avenue – north of Bon Air Road
- Bon Air Road – west of South Eliseo Drive
- Doherty Drive – vicinity of Piper Park
- Sir Francis Drake Boulevard – east of Bon Air Road

Local Intersections

The concept of Level of Service (LOS) was used to measure the operational performance of the study area intersections. Detailed analyses of the existing conditions were conducted for the weekday AM peak hour (generally 7:00 to 8:00 AM), PM peak hour (generally 5:00 to 6:00 PM) and for Saturday conditions (generally noon to 1:00 PM).

Twelve intersections in the area were analyzed as part of this study. The location of the study intersections and existing lane configurations are illustrated in **Figure 3**. The study intersections are listed below:

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7. Lucky Drive/Doherty Drive
8. Lucky Drive/Fifer Avenue
9. Fifer Avenue/Tamal Vista Boulevard
10. Warnum Drive/Tamal Vista Boulevard
11. Warnum Drive/Redwood Highway
12. U.S. 101 NB On-ramp/Industrial & Redwood Highway

The Level of Service (LOS) of an intersection is a measure of the ability of the intersection to accommodate traffic volumes. Intersection Level of Service ranges from

[1] Data collected by Wilbur Smith Associates.

LOS A, which indicates free-flow conditions with little overall delay, to LOS F, which indicates congested conditions with extremely long delays. At signalized intersections the City of Larkspur sets LOS D as the minimum acceptable condition. For unsignalized intersections, LOS C is the minimum acceptable condition.

Signalized intersections were evaluated using the 1994 Highway Capacity Manual (HCM) operations methodology for intersection delay, outlined in Chapter 9 of the HCM. This method determines the capacity for each lane group approaching an intersection. The average delay is first calculated for each intersection approach. Then the weighted average of the delays for each approach is calculated to determine the average delay for the intersection, which is used to determine the overall LOS for the intersection.

Unsignalized intersections were evaluated using the methodology outlined in Chapter 10 of the HCM. This method determines average total delay per vehicle, which is used to determine the LOS. Adjustments were made to the saturation flow at particular intersections to accurately reflect the traffic conditions observed in the field. For example, field observations of conditions at the intersection of Magnolia Avenue and King Street during the PM peak hour indicated that vehicles on the northbound approach of the intersection experienced an average delay of two minutes per vehicle. Because the HCM methodology for unsignalized intersections does not allow for adjustments to capacity for on-street parking, high pedestrian volumes and other factors, adjustments to the saturation flow were required to yield accurate results. **Appendix A** provides tables and figures that show the LOS descriptions for signalized and unsignalized intersections.

Table 1 shows the results of the intersection analysis for existing weekday AM peak hour, PM peak hour and Saturday peak hour conditions. The table indicates that all study intersections are currently operating at acceptable levels during the AM peak hour and weekend peak hour, with the exception of the unsignalized intersections at Doherty Drive and Riviera Circle (LOS D, AM peak hour) and Magnolia Avenue/King Street (LOS F, PM peak hour). **Appendix B** contains the detailed calculations of the intersection Level of Service analysis.

During the weekday AM peak hour, six of the twelve intersections operate at LOS B, five intersections operate at LOS C and one intersection operates at LOS D. Average delay per vehicle at the intersections ranges from 1.6 seconds per vehicle at the intersection of Doherty Drive/Larkspur Plaza to 26.3 seconds per vehicle at the intersection of Doherty Drive and Riviera Circle. A driveway providing access to Redwood High School forms the southern leg of this intersection.

The intersection at Doherty Drive/Riviera Circle/Redwood High School experiences significant congestion in the morning peak hour due to High School related vehicle activity. Between 7:20 and 7:35 AM the intersection was observed to operate closer to the LOS E/F range due to students driving to school or being dropped off. The congested conditions were observed to dissipate quickly after approximately a 15 minute period and the intersection was found to resume operations closer to the LOS D conditions reflected in the peak hour calculation.

During the weekday PM peak hour (generally 5:00 to 6:00 PM), five of the twelve intersections operate at LOS B, five intersections operate at LOS C, one intersection operate at LOS D and one intersection operates at LOS F. Average delay per vehicle at the intersections ranges from 2.2 seconds per vehicle at the intersection of Doherty Drive/Larkspur Plaza to 51.0 seconds per vehicle overall at the intersection of Magnolia Avenue and King Street.

There are two distinct afternoon peak periods in the Doherty Drive corridor due primarily to activity at the Hall Middle School and Redwood High School. Overall traffic volumes peak on Doherty Drive from Magnolia Avenue to Lucky Drive between 3:15 and 3:45 PM. This spike in traffic is due to students departing the schools and to the start of the afternoon commute traffic traveling west on Doherty Drive from U.S. 101. The second traffic peak occurs between 5:00 and 6:00 PM and represents the traditional commute peak hour. Although traffic volumes at study intersections on Doherty Drive are highest during the first peak period (3:15-3:45 PM) the late commute peak period traffic sustains high volumes consistently for the hour and it is this traffic that is analyzed for the PM peak hour LOS shown in Table 1. A comparison of intersection analysis on Doherty Drive found no difference in LOS at any of the study intersections between the 3:15-3:45 PM peak period and the later traditional commute hour.

The unsignalized four-way stop intersection of Magnolia Avenue and King Street was at LOS F during the PM peak hour. Vehicles on the northbound approach experienced substantial delays. During field observations, the average delay for northbound vehicles on Magnolia Boulevard was found to be up to two minutes per vehicle. Northbound traffic typically queues back to William Avenue and then requires between 90 seconds to 120 seconds to reach the stop sign at King Street. Northbound traffic at this intersection was observed on one occasion to queue back beyond Alexander Avenue with delays of five minutes or more per vehicle. These condition lasted for much of the peak hour.

The peak hour for traffic at the Magnolia Avenue/King Street intersection was determined to occur generally between 5:00 and 6:00 PM. However, northbound approach traffic can begin to back-up on Magnolia Avenue as early as 4:00 PM and can continue as late as 7:00 PM.

During the weekend peak hour (generally 1:00 to 2:00 PM), seven of the twelve intersections operate at LOS B and five intersections operate at LOS C. Average delay per vehicle at the intersections ranges from 1.3 seconds per vehicle at the intersection of Doherty Drive and Larkspur Plaza to 19.4 seconds per vehicle at the intersection of Warnum Drive and Tamal Vista Boulevard.

Table 1
EXISTING PEAK HOUR LEVELS OF SERVICE

Study Intersections	Traffic Control	Weekday AM Peak Hour LOS	Weekday AM Peak Hour Average Delay (sec/veh)	Weekday PM Peak Hour LOS	Weekday PM Peak Hour Average Delay (sec/veh)	Weekend Peak Hour LOS	Weekend Peak Hour Average Delay (sec/veh)
Bon Air Rd./Magnolia Ave.	Signalized	B	9.0	B	8.3	B	8.2
Doherty Dr./Magnolia Ave.	Signalized	B	9.1	B	9.7	B	7.9
Ward St./Magnolia Ave.	Signalized	C	16.7	C	17.7	B	9.0
King St./Magnolia Ave.	Unsignalized (All-way STOP-controlled)	C	18.7	F	51.0	C	15.5
Doherty Dr./Larkspur Plaza	Unsignalized (Two-way STOP-controlled)	C	1.6	C	2.2	C	1.3
Doherty Dr./Riviera Cir.	Unsignalized (All-way STOP-controlled)	D	26.3	C	11.5	C	16.6
Lucky Dr./Doherty Dr.	Unsignalized (All-way STOP-controlled)	C	10.4	B	5.6	B	7.0
Lucky Dr./Fifer Ave.	Unsignalized (Two-way STOP-controlled)	C	10.0	C	4.7	B	8.1
Fifer Ave./Tamal Vista Blvd.	Signalized	B	14.0	C	18.7	C	16.4
Wamum Dr./Tamal Vista Blvd.	Signalized	B	12.7	D	34.2	C	19.4
Wamum Dr./Redwood Hwy.	Signalized	B	7.7	B	11.4	B	9.0
U.S. 101 NB On-ramp/Industrial & Redwood Hwy.	Signalized	B	5.4	B	10.4	B	5.5

Source: Wilbur Smith Associates, July 1999.

Notes:

1. Weekday AM peak hour traffic counts were made on Thursday, September 30 and Wednesday, October 6, 1999. Weekday PM peak hour traffic counts were made on Wednesday, September 29 and Tuesday, October 5, 1999. Weekend peak hour traffic counts were made on Saturday, October 2 and Saturday, October 9, 1999.
2. The delay presented for the two-way STOP-controlled intersections represents the average delay per vehicle for all approaches.

Average Daily Traffic Data

Average daily traffic (ADT) volumes were recorded at five locations on four local roads within the study area over seven consecutive days. **Figure 4** illustrates the location from which daily traffic counts were taken. Daily traffic was counted at Magnolia Avenue (Downtown and north of Bon Air Road), Doherty Drive, Bon Air Road and Sir Francis Drake Boulevard. Weekday counts from Tuesday through Thursday were averaged and the volumes are shown in Table 2. On an average weekday, Sir Francis Drake Boulevard was most heavily traveled (47,720 vehicles), followed by Magnolia Avenue Downtown (15,675 vehicles), Magnolia Avenue North (14,110 vehicles), Bon Air Road (13,080 vehicles) and Doherty Drive (11,410 vehicles).

Saturday ADT volumes are lower, with Sir Francis Drake Boulevard remaining most heavily traveled (38,330 vehicles), followed by Magnolia Avenue Downtown (12,940 vehicles), Magnolia Avenue North (11,590 vehicles), Bon Air Road (9,900 vehicles) and Doherty Drive (8,990 vehicles).

Table 2
AVERAGE DAILY TRAFFIC VOLUMES

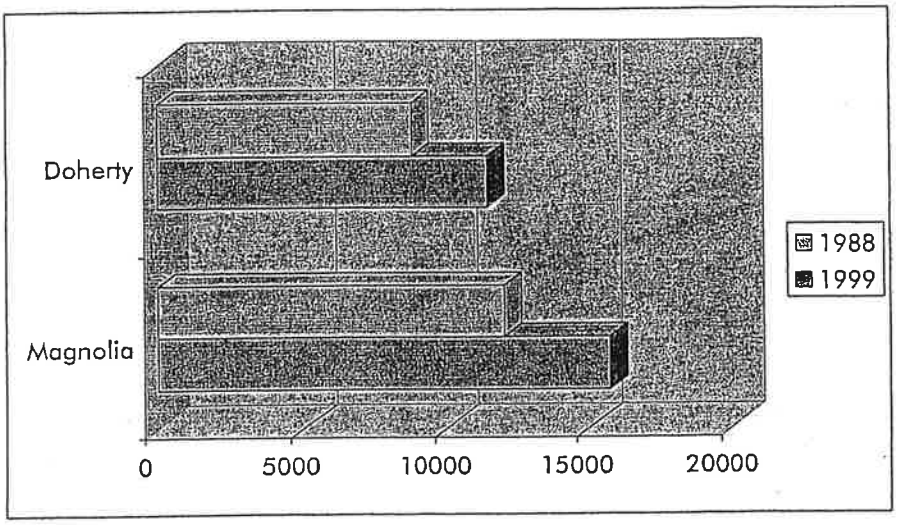
Location	Weekday ADT (vehicles)	Saturday ADT (vehicles)
Magnolia Downtown	15,680	12,940
Magnolia North	14,110	11,590
Doherty Drive	11,410	8,990
Bon Air Road	13,080	9,900
Sir Francis Drake	47,720	38,330

Note: Volumes recorded 09/30/99-10/06/99 -- Marks Traffic Data Service

Historical 1988 weekday ADT data from the General Plan for Downtown Magnolia Boulevard and Doherty Drive is compared with existing weekday ADT in Graph 1 shown below.

Graph 1 indicates that ADT has increased on Downtown Magnolia Boulevard by approximately 27 percent, and by approximately 25 percent on Doherty Drive over the past 11 years. The highest growth in traffic on both arterials is found between the hours of 7:00 AM to 4:00 PM. Weekday PM peak hour volumes (5:00 to 6:00 PM) have remained generally unchanged.

Graph 1
COMPARISON OF HISTORICAL ADT VOLUMES



Transit Network

Scheduled transit service in Larkspur is provided by Golden Gate Transit, and includes local and regional bus service between the North Bay and San Francisco, and ferry service to San Francisco. Ferries depart from the Larkspur Ferry Terminal, and are serviced by ferry shuttle buses (free for ferry passengers). Descriptions of ferry and other bus service in the vicinity of the Specific Plan Area provided by Golden Gate Transit follow:

- **Ferry Shuttle Bus Route** - weekday commute period service, providing direct connections to Ferry arrivals/departures at the Larkspur, Sausalito, Tiburon and San Francisco Ferry terminals;
- **Basic Bus Route** - daily service between San Francisco, Marin, Sonoma and Contra Costa counties;

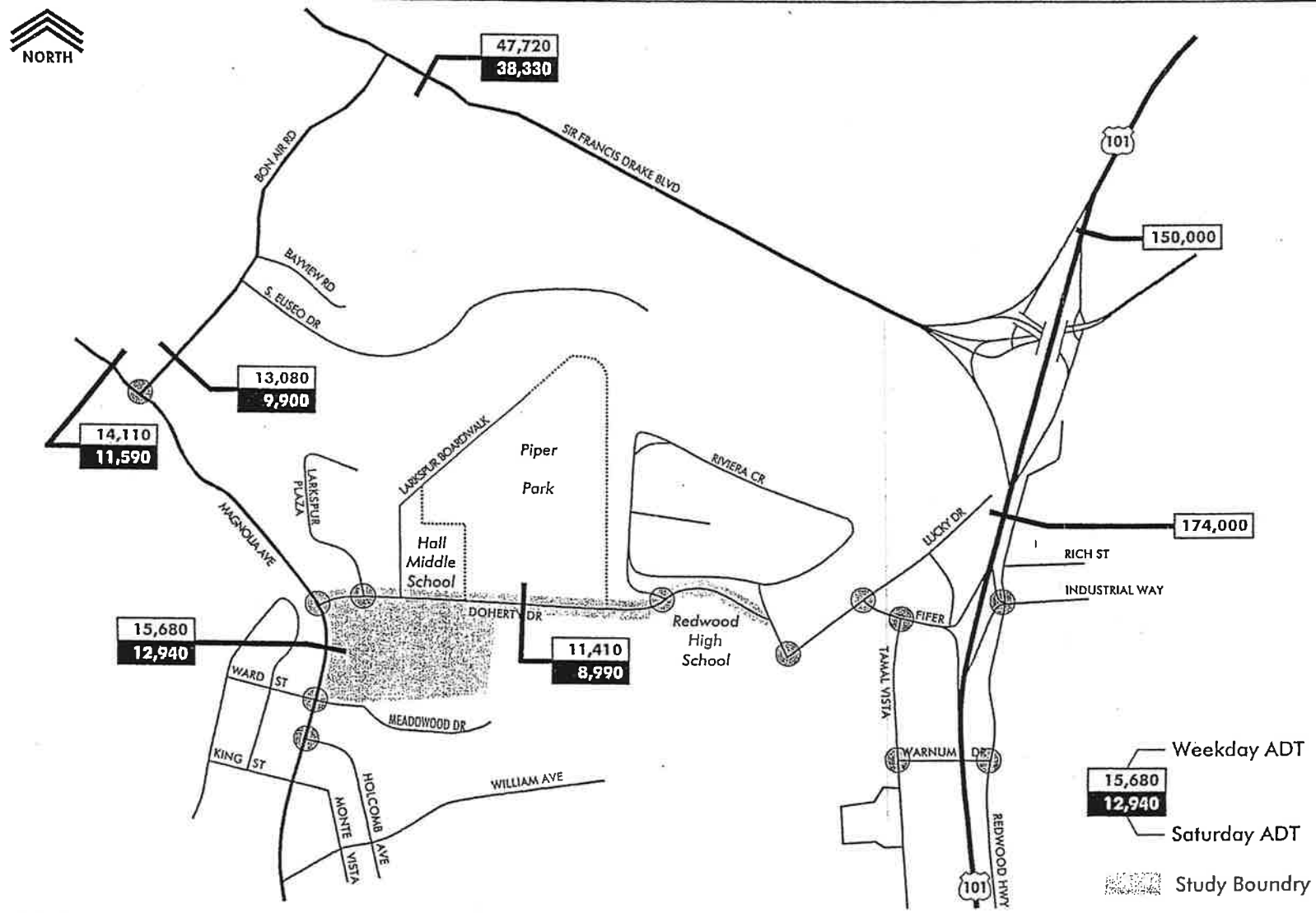


Figure 4
AVERAGE DAILY TRAFFIC VOLUMES (ADT)

WSA WILBUR SMITH ASSOCIATES

345540\RPBSE-1/11/00

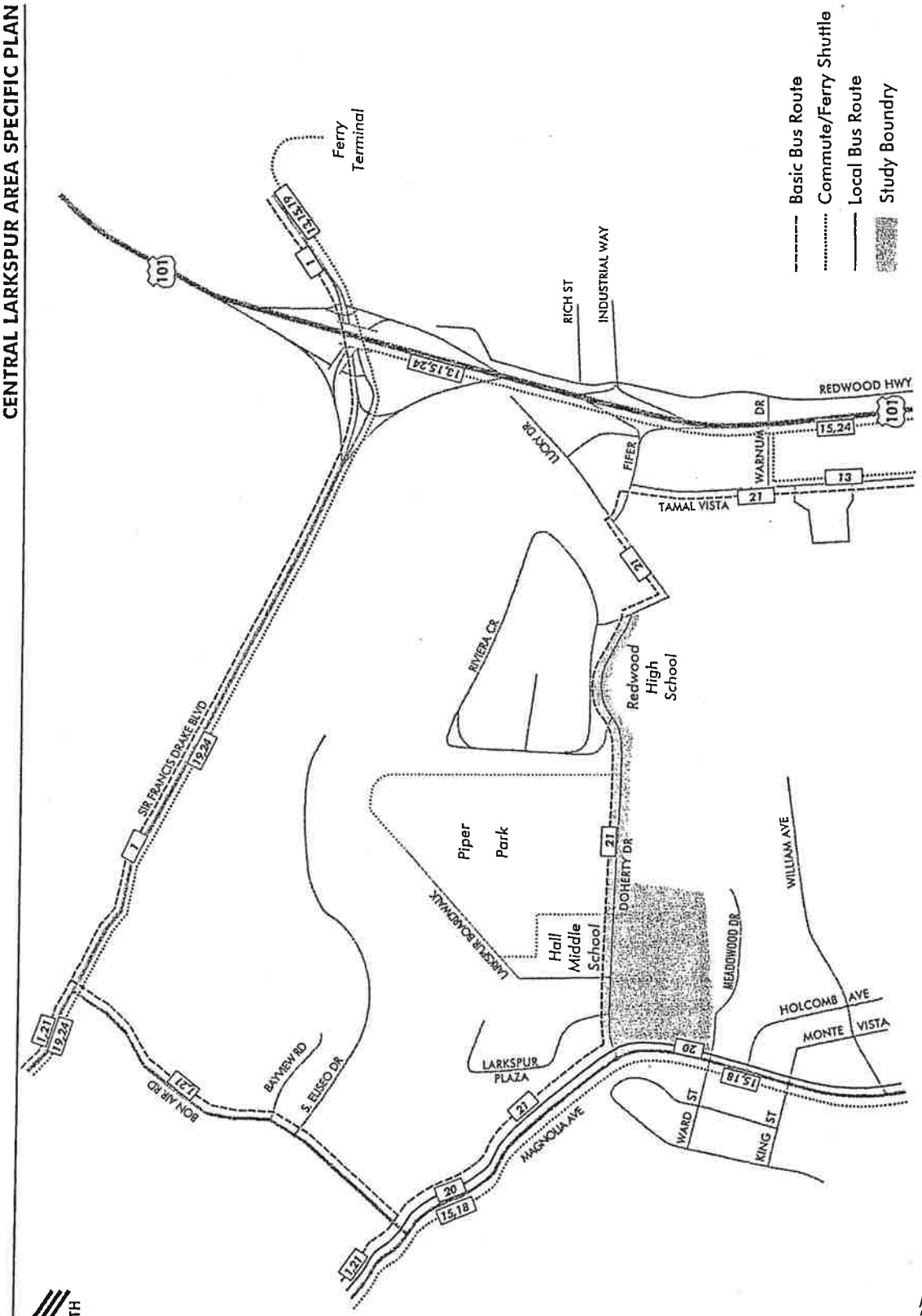


Figure 5
GOLDEN GATE TRANSIT BUS ROUTES IN STUDY AREA
345540\TRANSIT-1/11/00

WILBUR SMITH ASSOCIATES

- **Commute Bus Route** - weekday express commute period service between Sonoma, Marin and San Francisco counties (morning routes operate southbound; evening routes operate northbound);
- **Local Bus Route** – weekday and limited weekend service within Marin County.

Bus routes within the study area are representative of each of these types of services (see **Figure 5**): In addition the area is served by freeway express routes stopping at the Highway 101 bus pads at Tamalpais Drive and Lucky Drive. Routes serving the Specific Plan Area and greater vicinity include:

- **Route 1** - Novato-San Rafael-College of Marin Route provides *local* service in a loop west of the study area, including service on Sir Francis Drake Boulevard, Magnolia/College Avenue and Bon Air Road, and continues east along Sir Francis Drake Boulevard (past U.S. 101).
- **Route 13** - East Corte Madera-Larkspur Ferry Terminal Route provides free weekday, commute period *ferry shuttle* service southeast of the study area, on Tamal Vista Boulevard.
- **Route 15** - College Of Marin-Corte Madera-Larkspur Ferry Terminal Route provides free weekday, commute period *ferry shuttle* service along the north and west sides of the study area, on Sir Francis Drake Boulevard leading to Magnolia Avenue.
- **Route 17** – Neil Cummins School-Hall Middle School is a *local* bus route (service supplement) operating along Doherty Drive and Magnolia Avenue Monday through Friday on school days only.
- **Route 18** - San Anselmo-College of Marin-Corte Madera-San Francisco Route provides *commute* service along the west side of the study area, on Sir Francis Drake Boulevard leading to Magnolia Avenue.
- **Route 19** - Manor-San Anselmo-Greenbrae-Larkspur Ferry Terminal Route provides free weekday, commute period *ferry shuttle* service along the north side of the study area, on Sir Francis Drake Boulevard.
- **Route 20** - Canal-San Anselmo-Corte Madera-San Francisco Route provides *basic* service along the west side of the study area, on Sir Francis Drake Boulevard leading to Magnolia Avenue.
- **Route 21** - C.O.M.-Mill Valley Route also provides *local* service in a loop west of the study area, including service on Sir Francis Drake Boulevard, Magnolia/College Avenue and Bon Air Road, and continues east along Doherty Drive (passing Redwood High School), then south on Tamal Vista Boulevard.
- **Route 24** - Lagunitas-Manor-San Anselmo-Greenbrae-San Francisco Route provides *commute* service along the north and east sides of the study area, on Sir Francis Drake Boulevard and along U.S. 101 (bus pad).

Pedestrian Conditions

On typical weekdays and weekends, pedestrian activity in the Specific Plan Area is generally moderate throughout the day. Pedestrians are able to easily walk along the adjacent sidewalks and crosswalks. During weekdays pedestrian activity is concentrated along Magnolia Avenue downtown, the Larkspur Plaza Center and on Doherty Drive at the schools during relatively brief periods in the mornings and afternoons. Weekend pedestrian activity increases somewhat along Doherty Drive in the vicinity of Piper Park and at the High School when there is a scheduled event such as a football game. Weekend pedestrian flows on Magnolia Avenue between noon and 7:00 PM represent the highest concentration of pedestrian activity in the study area.

The sidewalks along both sides of Magnolia Avenue are typically 10-feet wide between King Street and Doherty Drive. There are a number of driveway curb cuts in this corridor (particularly along the west face) which serve commercial operations, parking areas and municipal uses.

Crosswalks are located at the stop sign controlled intersection of Magnolia Avenue/King Street and the signalized intersections at Ward Street and Doherty Drive. The two signalized crosswalks provide pedestrian actuated buttons. Pedestrian crossings during morning and afternoon weekday peak periods were observed to be light and crossings at the intersection of Magnolia Avenue/King Street operated in a controlled and safe manner. Mid-block pedestrian crossing was observed on Magnolia Boulevard (between King and Ward Streets) throughout the weekday and Saturday peak periods. While crossing outside of designated crosswalks is a code violation subject to a fine, the fact that some people are willing to do so indicates in part a level of comfort and security with the existing traffic levels and patterns on Magnolia Avenue even during peak commute periods.

On Doherty Drive sidewalk widths range between 10- to 5-feet wide. Sidewalks currently extend on both sides of Doherty Drive east from Magnolia Avenue to Riviera Circle. The sidewalk on the south side of Doherty Drive ends approximately 500-feet west of the Redwood High School entrance. This sidewalk connects to an access path to the parking lot at the front of Redwood High School. On the north side of the street the sidewalk ends at Riviera Circle. Sidewalks are continued beyond the Doherty Drive curve at the rear high school parking lot driveway on both sides of Lucky Drive.

The City of Larkspur is currently considering plans to widen Doherty Drive at the high school curve in order to provide a continuation of the south side sidewalk and to provide bicycle lanes on both sides of the street. The proposed plan would not increase the number of vehicle lanes in this area.

Crosswalks are located on Doherty Drive at Magnolia Avenue, mid-block near Larkspur Boardwalk and serving Hall Middle School, Riviera Circle (High School entrance) and at Lucky Drive (rear high school parking lot driveway). The signalized intersection at Magnolia Avenue provides pedestrian actuated buttons at all crosswalk segments; all other crosswalks in this corridor are unsignalized.

Surveys of crosswalk activity at the Hall Middle School and Redwood High School were conducted during the weekday morning and afternoon peak periods. Results of the pedestrian counts are shown in Table 3. Hall Middle School typically is in session between 8:40 AM and 3:10 PM. Redwood High School starts at 8:00 AM and typically finishes at 3:10 PM. Table 3 shows volumes for 20 minute time periods. The volumes for the two high school crosswalks are combined. The crosswalk located at Lucky Drive and the back parking lot carries approximately 70 percent of the high school crosswalk activity.

The crosswalk survey did not capture students who walk to school along Doherty Drive and enter the school grounds through the parking lot, nor do the volumes indicate the students who use the paths on the south side of the school. The survey focused only on those persons crossing Doherty and Lucky Drive to enter and exit the school.

Table 3
Summary of School Crosswalk Counts

Location	Morning	Afternoon
Hall Middle School	80	140
Redwood High School	150	85

Source: WSA – October 1999

The mid-block crosswalk serving Hall Middle School is controlled by an adult crossing guard in the morning prior to the start of school and in the afternoon for a period of approximately 20 minutes at the close of school. The survey at this crosswalk indicated that approximately 35 percent of the children in the afternoon were using bicycles. The survey also indicates that a significant percentage of the students who are dropped off in vehicles in the morning leave school on foot. The afternoon count of 140 student crossings at Hall Middle School was conducted over a 15 minute period.

Bicycle Conditions

Bicycle use in the Specific Plan Area was observed to be generally moderate during the weekday and Saturday peak periods. The area is served by an existing paved multi-use path which parallels Magnolia Avenue north of Doherty Avenue. The path provides connections to existing residential areas east of Magnolia Avenue and to points north of Downtown Larkspur. This path segment was observed to be lightly but consistently used throughout the weekday and Saturday peak periods.

An existing signed bike route located along the west boundary of the Niven property connects to another multi-use path which travels south from the Specific Plan Area parallel to and east of Magnolia Avenue to William Avenue. This path provides access to residential areas within Larkspur and links to Corte Madera and Mill Valley. This multi-use facility was observed to carry light yet consistent bicycle and pedestrian traffic during the weekday and Saturday peak periods.

Doherty Drive provides two ten foot wide parking lanes on both sides of the street from near Magnolia Avenue to Redwood High School. These lanes are not signed for bicycle use but do serve as de facto bike lanes. Bicycle activity along Doherty Drive can be characterized as generally light to moderate with the exception of after school activity particularly at the Hall Middle School. Weekend bicycle activity at Piper Park was found to be slightly higher than observed weekday activity.

Parking Conditions

Parking utilization in the study area was surveyed during a weekday and a Saturday. Parking conditions both on and off-street were observed and parking occupancy rates were calculated for the following locations and areas:

On-Street Parking

- Magnolia Avenue between Doherty Drive and Ward Street
- Doherty Drive between Magnolia Avenue and Redwood High School
- Larkspur Plaza Drive between Doherty Drive to the back of the tennis club

Off-Street Facilities

- City Lot (Ward Street)
- Nazari Property
- Back of Nazari (Railroad right-of-way)
- Larkspur Plaza
- Piper Park

Parking occupancy surveys were conducted between 11:00 AM and 1:00 PM and 4:00 PM and 6:00 PM during a weekday, and between 11:00 AM and 2:00 PM and 6:00 PM and 8:00 PM on a Saturday. Table 4 summarizes the findings of the study area parking survey.

Table 4
Summary of Study Area Parking Occupancy

Location	Number of Spaces	Weekday Occupancy		Saturday Occupancy	
		Mid-day	Evening	Mid-day	Evening
Off-Street					
City Lot	28	86%	57%	86%	100%
Larkspur Plaza	170	49%	47%	54%	47%
Nazari	21	37%	37%	43%	67%
Nazari – Back	10	40%	70%	60%	50%
Piper Park	110	25%	17%	92%	33%
On-Street					
Magnolia – east side	5	80%	80%	100%	100%

Magnolia – west	18	78%	78%	100%	100%
Doherty –south	27	4%	4%	48%	7%
Doherty – north	12	0	0	8%	0
Larkspur Plaza Dr.	29	24%	21%	35%	48%

Source: WSA October 1999

The parking survey findings where appropriate are generally consistent with those in the *1998 Downtown Parking Plan* and the *1997 Downtown Parking Survey Update*. The curb area along the south side of Doherty Drive adjacent to the athletic fields was not surveyed as part of this effort. This curb face extends for approximately 600-feet and could accommodate 30 vehicles. During weekdays up to six vehicles have been observed parking in this location. On Saturday's during high school football games up to four vehicles were observed parked in this area. This curb face is generally vacant and was not included in the survey for that reason.

Vehicle Speeds

Vehicle travel speed surveys were conducted on Doherty Drive during the weekday morning, afternoon (close of school) and evening commute periods. The surveys were conducted by randomly following vehicles on Doherty Drive (both directions) and recording the highest matching speed. This type of survey can provide reasonable order of magnitude (ball park) results however it can not provide the consistency and accuracy of a radar survey.

The posted speed limit on Doherty Drive is 25 miles per hour (mph). The results of the speed survey is shown in Table 5.

Table 5
SUMMARY OF AVERAGE VEHICLE SPEEDS ON DOHERTY DRIVE

Time	Average Speed (mph)	
	Eastbound	Westbound
7:00 – 8:00 AM	32	37
2:30 – 3:30 PM	36	35
5:00 – 6:00 PM	33	31

Source: WSA October 1999

Average vehicle speeds were found to exceed the posted limit from 6 to 11 mph. The periods during which the speed data was collected represent the times of the heaviest traffic volumes. Under these conditions traffic speeds can be assumed to be limited due to congestion on Doherty Drive and the inability of vehicles to pass on this road. Observations of traffic speeds on Doherty Drive during off-peak times indicate that some vehicles are traveling at speeds in excess of 40 mph.

T-1 Please see responses to Comments T-2 through T-25 regarding specific issues.

T-2 The Specific Plan sets standards to which improvements to Doherty Drive must comply. Detailed designs, studies, and plans are not required. Replacement of Doherty Bridge is included in the City's Capital Improvement Plan, and Specific Plan Transportation Standard 1.E pertains to the design of the new bridge if it were to be built. Replacement of the bridge is not required to accommodate projected traffic. When and if this CIP project or other improvements to Doherty Drive are proposed, the City will undertake appropriate design and planning.

T-3 Traffic impacts of the proposed Specific Plan, including impacts to Doherty Drive, are addressed in Section 4.7, Traffic and Circulation, of the DEIR.

T-4 The comment does not specify what effects are of concern; no specific response can be made. Consistent with the objectives of CEQA, the City discloses the environmental effects of the Specific Plan, proposes mitigation measures for the purpose of impact avoidance and minimization, and analyzes alternatives to the proposed project in the DEIR.

T-5 The comment lacks specificity as to what data or analysis is of concern; no further response is possible.

T-6 The impact conclusions in the DEIR are based on facts and commonly accepted understanding of the facts. The comment lacks specificity as to which impact statements are of concern; no further response is possible.

T-7 Mitigation measures may be constructed by project applicants, or they may be constructed by the City, which would collect fees from project applicants. Please also see response to Comment I-6.

T-8 Please refer to response to Comment S-2 and Comment S-3.

The traffic and noise impacts of the Specific Plan are presented in Section 4.7 and Section 4.8 of the DEIR. The DEIR discloses traffic and noise impacts that would have significant and potentially significant impacts, respectively in the sections. The DEIR also provides mitigation measures to reduce the impacts to less-than-significant levels.

T-9 Mitigation measures were developed consistent with the definition of "mitigation" in CEQA Guidelines §15370 and the direction in §15126.4. Whenever possible, the impact analysis and mitigation measures provided in the DEIR are based on quantified facts. However, the comment fails to specify what mitigation needs to be quantified and no further response is possible.

T-10 Since the original submittal of the comment letter on August 27, 2002, Illingworth & Rodkin, Inc. prepared and submitted a sound and vibration study to the City on August 30, 2002. The commenter is referred to this study, which is included as an appendix in this document. This study is also incorporated in the DEIR Section 4.8, Noise. The commenter is referred to the DEIR published on November 14, 2003 for analysis of noise and vibration impacts, including noise and vibration measurements at the three properties mentioned in the comment.

T-11 Commented noted. Refer to description of study in Appendix G-3. The comment does not pertain to the adequacy of the DEIR, and no further response is necessary. The noise measurements followed standard methodology.

T-12 As noted in DEIR Page 4.8-8, Illingworth & Rodkin, Inc. placed noise measurement device on a patio support post approximately 10 feet above grade. As such, it was above the nine-foot fence, above any noise-attenuating structures. The difference in the placement of equipment may be attributable to the types of machines used. As noise and vibration travels in a circular pattern, the exact location is less important than the distance from the source of noise and vibration. The measurements conducted by Illingworth & Rodkin, Inc. for the DEIR follow standard methodology and are considered valid.

T-13 Illingworth & Rodkin, Inc. took the measurements during a typical day when schools were in session, there were no holidays or special events, and no roadway obstruction or closure occurred on Doherty Drive. For this reason, the vibration results are considered valid. Please see also response to Comment P-20.

T-14 As stated on DEIR Page 4.8-10, Miller Pacific Engineering Group considered the results of the previous study conducted by Municon Consultants in 2000 in reaching the conclusion that vibration along Doherty Drive is within perceptible range for people but well below the threshold for causing damage to structures. The attached August 30, 2002 report by Illingworth & Rodkin, Inc. included as Appendix G-3 in this document also considered the results of the previous study conducted by Municon Consultants in 2000 in reaching its conclusions.

T-15 The Illingworth & Rodkin, Inc. study was conducted according to standard methodology over a typical day. Based on the results of the measurements of existing conditions, the study estimated the effects of increased traffic volumes. It is noted that the rattling of windows is related to traffic vibrations (see Page 4 of Illingworth & Rodkin, Inc. study in Appendix G-3). With regard to increase noise levels due to reflection off of Redwood High School structures, this phenomenon, if substantial, would be incorporated in the analysis of existing conditions and would not be exacerbated by increased traffic. The noise and vibration analysis in the DEIR is considered valid and sufficient. DEIR Section 4.8, Noise, includes descriptions of the characteristics of noise and vibration. Please also see response to Comment T-12.

T-16 The proposed Specific Plan does not require or prescribe construction activities on the stretch of Doherty Drive near the Larkspur (Greenbrae) Marina. The DEIR addresses effects of construction traffic on structures adjacent to Doherty Drive under Impact 4.8-4. Please refer to DEIR Section 4.8, Noise.

T-17 Please see responses to Comments P-8 and P-9.

T-18 This issue is analyzed under Impact 4.3-4 on pages 4.3-14 and 4.3-15. Please refer to DEIR Section 4.3, Geology and Soils. Please also see responses to Comments P-5 and P-8.

T-19 There is no known existing safety hazard on Doherty Drive. The comment does not raise specific environmental issues **or** address the DEIR analysis. No further response is necessary.

T-20 The DEIR acknowledges that City noise standards of 55dBA (exterior residential) are currently exceeded along Doherty Drive (DEIR Page 4.8-13). Project-generated traffic would increase noise levels in this area by less than 1 dBA, which is imperceptible. Therefore, although the existing noise levels are adverse, the project's contribution is less than significant. It is noted that Mitigation Measure 4.8-1 would ensure new development in the Specific Plan area would meet the City's noise standards.

T-21 The DEIR has been revised since these comments were first submitted in August 2002. See DEIR Section, 4.7, Transportation and Circulation for discussion of traffic counts taken in 2003. The DEIR provides an analysis of intersection operations in the Doherty Drive corridor, and discusses the effects of school-related traffic on Doherty Drive. Commenter is referred to DEIR Section, 4.7, Transportation and Circulation.

T-22 Commenter's concerns are noted. There are no known public safety issues associated with Doherty Drive. For example, the Twin Cities Police Department considers the accident rates at the intersections of Redwood High School west parking lot entry/Doherty Drive/Riviera Circle, Magnolia Avenue/Doherty Drive, and Doherty Drive/Larkspur Plaza/Albertsons entrance/Hall Middle School Entrance as being low, with one or two accidents per year at these three intersections combined since 1998 (McDuffy, pers. comm., 2004). Vehicles from the Specific Plan area would access Doherty Drive from one of two controlled intersections, and the Specific Plan proposes a vegetation barrier between the residential uses and Doherty Drive. . Traffic speeds are controlled through sustained enforcement and citing of violators. See response to Comment P-8 regarding weight limit on Doherty Drive.

T-23 Please refer to DEIR Section 4.6, Air Quality, for analysis of air quality impacts associated with development in the Specific Plan area.

T-24 The suggestions are noted. Consideration of some of the suggestions (e.g., tonnage limits, speed limits) to address existing conditions that will not be significantly increased

by the project are beyond the scope of this DEIR, as they are not features of the Specific Plan nor required to mitigate significant environmental impacts. In compliance with CEQA, the DEIR considers changes in the physical environment that would result from the implementation of the Specific Plan. This EIR fulfills this condition, and no further response is needed.

T-25 With regard to stormwater runoff, please see responses to Comments H-1, U-17, and CC-1. With regard to the capacity of Doherty Drive, please see response to Comment J-2.

Marin Audubon Society Box 599 Mill Valley, California

February 11, 2004

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Bob Pendoley, Project Mgr.
Planning Department
City of Larkspur
400 Magnolia Avenue
Larkspur, CA 94939

Re: Larkspur Specific Plan and DEIR

Dear Mr Pendoley:

The Marin Audubon Society is pleased to have the opportunity to comment on the above documents. Our concerns and issues focus on protecting and enhancing Larkspur Creek as a natural habitat resources.

Larkspur Creek is a tributary of Corte Madera Creek and although its adjacent tidal marshes have been filled and its edge is filled with non-native plant species, it still functions as important habitat for birds and other wildlife, movement corridor for wildlife to pass between habitats, a conduit for runoff, a facility for improving or degrading water quality and a natural amenity for the enjoyment of people. Unfortunately, many jurisdictions, including Larkspur, have allowed the filling of wetlands and undergrounded and otherwise degraded drainageways along the entire length of Corte Madera Creek. This Plan is the last opportunity to rectify some of the past impacts to Larkspur Creek, and to enhance its natural values. U-1

The primary means through which the Creek will be protected is through establishment of a habitat buffer. We suggest that the buffer be renamed a habitat buffer. The DEIR should discuss that the buffer or the uplands adjacent to the creek is, in fact, an important part of the creek habitat providing cover and food for species that deepened on the creek, corridors to move between habitats, vegetated areas that remove pollutants from runoff and that hold the creek banks in place preventing erosion. An "Open Space Buffer," the term used in the Plan, has a connotation of being a park amenity for people, rather than a natural area that supports wildfire and people can enjoy for that and other reasons.

1. Larkspur Creek Habitat Protection

The Plan contains policies, components of which put forth the goal of protecting the habitat and other natural resource values of the Creek. The following are positive habitat protection policies:

- Policy 9 Creek Resources calls for protecting and enhancing the natural resource values of Larkspur Creek ...
- Policy 33 calls for an open space buffer along Larkspur Creek for water quality and natural habitat protection...
- Policy 48 Open Space Corridor Design calls for a design to protect water quality, natural habitats and scenic value. U-2

However, other components of these same policies are in direct conflict with the habitat protection provisions:

- Policy 9 also calls for making the creekside corridor accessible for passive use by the entire community. The latter component of this policy, if it is interpreted as having the accessibility in the buffer zone, completely contradictory to protecting the creek resources. This should be changed to clarify that the accessibility is to be outside of the buffer.

• Policy 33 subsequent standards call for 50 foot buffer along north/south reach and 25 fee along the east/west reach of the creek. There is no justifiable biological reason to reduce the buffer along the east/west edge. U-3

• Policy 48 Open Space Corridor Design also indicates the corridor "may be improved" to provide public access and passive use of the improvements." This is in direct conflict with protecting the natural habitat and other values stated above. They would require destruction of vegetative habitats. Many other policies also contain conflicting provisions. See items 3 and 4 below. U-4

The DEIR also recognizes the potential impacts of uses allowed in the buffer zone. We support their proposed new Policy (page 4.5-21) but recommend changing the language to indicate that pedestrians and cyclists using the trails would not only cause secondary, but placement of the trail would cause direct impacts due to habitat loss. In addition, this policy should state that only native plants with high habitat value be located in the buffer. U-5

The DEIR recommends that the buffer be fenced to discourage people and pets from entering. While we support this proposal, the DEIR should address the potential adverse impacts of fencing, specifically the use of the creek edge as a movement corridor for wildlife. Since this will be the only open area that will allow deer and other wildlife to move to Corte Madera Creek, access areas need to be provided.

In addition to adding the new policy, the internal Plan conflicts should be eliminated by revising all of the above policies and any others containing the same or similar inconsistencies that we may have missed. U-6

Furthermore, there are a number of other policies/standards that conflict with habitat goals for the Creek. Pedestrian and bicycle paths conflict with habitat preservation goals and threaten these resources. These policies (and any others that we might have missed) should be modified as described below to ensure that the internal inconsistencies and policy conflicts are removed from the Plan: U-7

• Policy 10 Open Space Network calls for integrating the natural elements (creek, creekside vegetation and heritage trees) with bicycle and pedestrian routes. The policy should be revised to state that these paths be outside of the buffer.

• Policy 21 and Standards 11 and 12, calls for a combined bikeway and footpath along the south and east sides of the plan area. These sides are adjacent the Creek and the language would allow it to be in the buffer. U-8

• Policy 25 City-owned property adjacent to Subarea 3 Policy 25 calls for a series of minor pathways. It is not clear whether these paths would be in the buffer. This should be clarified. U-9

• Standard 16 simply calls for "no building" in the buffer - This means that trails, benches, fences, water quality facilities, etc, could be. Add clarifying language that only native plants with habitat value should be in the buffer. U-10

2. Creek Setback Width:

The Plan and DEIR should recognize the buffer width as an important component of the creek habitat. The buffer must be wide enough to provide nesting, foraging and cover habitat for the wildlife species that depend on the creek, and wide enough to buffer impacts of adjacent developed uses.

Policy 33 and its subsequent standards call for 50 foot buffer along north/south reach and 25 feet along the east/west reach of the creek. Standard 65 calls for the same width. There is no justifiable biological reason to reduce the buffer along the east/west edge to 25 feet; and this would in fact be detrimental to the creek habitat. Even the 50 feet is less than adequate. U-11

The *Baylands Ecosystem Habitat Goals Report*, a report of habitat recommendations from 116 biologists and other scientists, recommends "...a minimum buffer width of 300 feet. Where existing land uses or

other factors such as steep terrain preclude this, wetland buffers should be no narrower than 100 feet." . I have enclosed the full text of their buffer recommendation.

In accord with the Habitat Goals Report recommendation, the buffer width recommended by Standard 16 should be changed to a uniform 100 feet. U-11 Cont'd

4. Habitat Restoration/Enhancement

We support the DEIR proposed new policy requiring the developer to prepare a native plant restoration plan with the changes noted below. The primary change is that the developer also should be required to implement the plan. There is no benefit to the Creek from simply developing a restoration plan. The plan has to be implemented for it to be effective. And the plan should identify target wildlife species that are expected to benefit and the native plant species that are proposed to be planted. The policy should also state when the creek restoration would be implemented in relation to development of the project, i.e. that the restoration be implemented before the building construction, and that the developer is responsible to replace plants that die during the five year monitoring period. If many of the plants are dying, monitoring and replacement period should be extended. U-12

Policy 64 Habitat Enhancement calls for the applicant "to undertake a cooperative effort with the City of Larkspur and local environmental interests to enhance the natural habitat value of Larkspur Creek and adjoining protected open space." Any developer of this site should be required to enhance the natural habitat value of the Creek on the property he/she is developing. Unless mitigated a development will cause substantial impacts to the Creek. That mitigation should be protection and enhancement of the creek buffer habitat.

5. Wetland Impacts

Standard 1.E mentions widening of the Doherty Bridge. This will necessitate the loss of wetlands. The DEIR should identify how much wetland would be filled and recommend an area of creek for mitigating this impact. Mitigation should be the restoration of a portion of the historic wetlands along Larkspur Creek by removing fill. Mitigation wetlands should be provided at a ratio of 2:1, i.e. double the mitigation, and be of the same habitat type, i.e. tidal wetland. U-13

Policy 64 also mentions regrading of the northern portion of the Creek to expand the wetland area, and refers to Figure 7-39. More information should be provided about this activity. What is the purpose, acreage, and location of this expansion area? Figure 7-39 in not included in the document U-14

5. Native Trees

Standard 68 identifies trees to be retained. We support retaining the redwood and oak trees. The DEIR should also discuss whether there are any other native trees that would or could be removed according to the Plan policies. All native trees should be retained on the property. U-15

Policies should be included that only trees and other plant species native to Marin should be used in the buffer zone, and use of Marin natives should be encouraged in the development itself. U-16

6. Water Quality

The Plan should contain stronger policies to ensure the water quality of the Creek is protected.
To better ensure that water quality is not degraded, the City should add a policy requiring that all drainages remain above ground. This ensures that runoff will flow through natural subtrait (vegetation,, soil and rocks) and not through a pipe which would direct it underground and quickly to the creek . Allowing through natural swales and draingeways enables pollutants to slow and settle, and for the water to remain available to wildlife. U-17

Standard 73 (page 7-27) calls for locating grassy swales in the open space landscape design which could mean the buffer. The language should be changed to require them to be located outside of the buffers. U-17 Cont'd

Also, Standard 25 should be revised to locate Stormwater detention basins outside of the open space system of Subarea 3. U-18

7. Hazardous Materials

The DEIR discussion dismisses the importance of the impacts of dieldrin and lead accedence of biological benchmarks because wildlife would only be in the area for a short period. Is it not possible that some species would return to the site? U-19

The DEIR should include a discussion of the potential impacts of the removal of contaminants. What are the removal methods available, which is more effective, what kind of damage could they cause the creek and creekbanks, and which would cause the least potential damage? U-20

Impact 4.12-3 This policy also should include a plan to continue monitoring on a periodic basis to ensure that additional migration of contaminants is identified and remediated, where necessary. U-21

Thank you for considering our comments.

Sincerely,

Barbara Salzman
Conservation Committee

Baylands Ecosystem

Habitat Goals

Successfully restoring bittern and brine ponds to tidal marshes will require removal of bittern and brines. Disposal most likely will involve diluting these waste products before discharging them to the Bay. The Bay is one potential source of dilution water, and discharges from wastewater treatment facilities are another. At pond complexes that continue to produce salt, it may be possible to dilute bittern enough to allow its discharge to the Bay; without the need for bittern storage, existing bittern ponds possibly could be restored to tidal marsh.

Resolving this issue will require establishing criteria to determine how, and under what circumstances, these liquids can be discharged safely to the Bay. This should involve careful evaluation of a wide array of potential disposal alternatives for bittern and hypersaline brines. It also should involve the development of validated models to help predict the effects of salt pond restoration in the context of adjacent bayland habitats and restoration efforts. The current scientific investigations of the Napa-Sonoma Marsh Restoration Group, which is working to resolve this issue for the inactive salt ponds of North Bay, should be examined as a possible approach that could also be applied to South Bay.

Buffers

Project participants strongly agreed that existing and restored wetlands must be protected from factors that diminish wildlife habitat quality. It makes little sense to expend private or public funds to restore a site, only to have its biological functions compromised by residential and industrial activities, dogs and cats, unrestricted entry, and illegal dumping. One of the best ways to help ensure that the baylands provide maximum benefits for wildlife is to incorporate buffers into project design and management.

As used in this report, a buffer is a zone of transitional or upland vegetation that abuts a bayland or stream. Its purpose is to minimize the negative effects of adjacent land uses on the bayland or stream. The optimal dimensions of a buffer will vary from locale to locale as a function of local environmental constraints and the ecological objectives of restoration projects.

To develop recommendations for buffers, the RMG and the focus teams integrated the recommendations for many species and habitats. They recommended a minimum buffer width of 300 feet. Where existing land uses or other factors such as steep terrain preclude this, wetland buffers should be no narrower than 100 feet. For riparian habitats, the recommended minimum buffer width is 100 feet beyond the outside boundary of the riparian vegetation.

Most buffers should be fenced to prevent entry of humans, dogs, and livestock. However, there may be some instances where fencing may not be required. Buffers also should be free of human disturbance (e.g., tennis courts, swimming pools, trails) and non-native invasive vegetation.

Buffers should be considered an integral part of every wetland restoration or enhancement project. Funds for their acquisition, design, and long-term maintenance should be provided along with other project funding.

Public Access

In recent years, the public has become increasingly interested in gaining access to the Bay's shoreline for recreational enjoyment. In response to this demand, cities,

U-1 The DEIR identifies Larkspur Creek as a sensitive habitat (DEIR Page 4.5-10) and determined that the increase in urbanization and population because of the Specific Plan would result in potentially significant direct and indirect impacts on Larkspur Creek (Impact 4.5-2). The impact analysis states that Community Design Standard 65 (Creek Setback) requires a setback along Larkspur Creek to protect water quality and natural habitat. Specific Plan Land Use Policy 33, Standard 16 states that no building may be located closer than 50 feet to the top of bank on the north/south reach of the creek or 25 feet on the east/west reach of the creek. However, the buffer serves several purposes. Specific Plan Transportation Policy 25 calls for a series of minor pathways throughout the Plan area at unspecified locations. Furthermore, the analysis (DEIR Page 4.5-18) also points out that Specific Plan Design Policies 9 (Creek Resources) and 10 (Open Space Network), which allow for the introduction of human use in the buffer zone, would reduce the potential to enhance habitat along Larkspur Creek and would allow development in Subarea 3 that could result in significant degradation of the existing sensitive habitat associated with the creek. Therefore, the DEIR proposes Mitigation Measure 4.5-2a, b, which identifies three new policies (DEIR Page 4.5-21) that would protect and enhance habitat on the banks of Larkspur Creek while allowing for stormwater treatment and storage (see response to Comment Q-13) and would reduce Impact 4.5-2a, b to a less-than-significant level. If the City decides not to adopt Mitigation Measure 4.5-2a, b and decides instead to allow human recreational uses (e.g. trails, benches or fences) in the buffer zone, such as a pedestrian and bicycle path, the impact would not be mitigated and the city would be required to adopt a statement of overriding considerations.

U-2 Please refer to the response to Comment U-1.

U-3 As described in the DEIR, the Specific Plan buffer widths are adequate to protect the resources of Larkspur Creek and reduce potential impacts to a less-than-significant level. The section of Larkspur Creek in the Specific Plan area can be characterized as an urban creek that is mostly surrounded by development. The creek supports remnant patches of salt and brackish marsh habitat, as well as freshwater habitat, which are considered sensitive. However, the salt and brackish marsh habitats within the Specific Plan area are not high quality and are not suitable habitat to support special-status terrestrial or aquatic species. Therefore, the 25-feet-wide buffer is sufficient to provide separation between the existing habitat in the creek and the proposed urban development. The Specific Plan requirement for a width of at least 50 feet along the north/south reach of the creek provides additional separation, although a width of 25 feet would be sufficient for the purpose of providing protection for existing biological resources. The commenter cites the Bayland Ecosystem Goals report, which recommends a minimum buffer of 100 feet for riparian habitats. This report, however, also states that "the optimal dimensions of a buffer will vary from locale to locale as a

function of local environmental constraints and the ecological objectives of the restoration projects" (Goal Project 1999). The goal of the Specific Plan is to create a mixed-use neighborhood while preserving and enhancing environmental resources (see Specific Plan Goal 1). Because of the size of the Specific Plan area and the type of development proposed, a 100-feet-wide buffer is considered neither feasible nor necessary to protect the existing habitat. Instead, the minimum width of 25 feet and Mitigation Measure 4.5-2a,b, which is designed to protect the salt marsh habitat, would be sufficient to preserve and enhance the existing environmental resources. Increasing the buffer width beyond is not necessary to reduce project impacts on Larkspur Creek to a less-than-significant level (per the CEQA thresholds listed on DEIR page 4.5-15).

U-4 Please refer to the response to Comment U-1. Although Specific Plan Community Design Policy 48 would allow for public access and passive use of the creekside corridor by the community, adoption of the new policies as part of Mitigation Measure 4.5-2a, b would *not* allow human uses in the Larkspur Creek buffer area. Therefore, the City could not implement Specific Plan Community Design Policy 48 (or other policies allowing human uses in the buffer zone) without adopting a statement of overriding considerations.

U-5 Please refer to the response to Comment U-1. Impact 4.5-1 states that development of Subarea 3 would remove habitat (e.g., upland habitat) for common plant and wildlife species. Impact 4.5-2 in the DEIR states that placing a pedestrian/bike trail in the Larkspur Creek buffer zone would result in significant degradation of the existing sensitive habitat associated with the creek. Therefore, Mitigation Measure 4.5-2a, b provided new policies that the City should adopt to reduce the effects on Larkspur Creek to a less-than-significant level. The policies include a requirement for a native plant restoration plan for the uplands in the Larkspur Creek buffer area and a requirement to install permanent fencing to discourage people and their pets from entering restored habitat in the buffer area. The policies specify that the fencing "shall be installed along the outside edge of the buffer;" therefore, the fence would not directly impact the protected Larkspur Creek habitat. In addition, the fence could be designed to not inhibit the movement of wildlife species in the creek corridor. It is noted that the Specific Plan allows stormwater treatment and detention features, such as grassy swales, to be located in the buffer area. These features would generally be covered with native plants (Specific Plan Community Design Standard 75), which may provide habitat for wildlife species. While these features would periodically be flooded, they would not span the entire width of the buffer area and, thus, would not preclude wildlife movement. As addressed in Section 4.5, and stated in Impact 4.5-5, of the DEIR, the Specific Plan would not result in significant impacts to biological resources after Mitigation Measure 4.5-2a, b is implemented, so no further fencing design requirements are necessary.

U-6 Comment noted. Please refer to the response to Comment U-1.

U-7 Comment noted. Please refer to the response to Comment U-1.

U-8 Comment noted. Please refer to the response to Comment U-1.

U-9 Comment noted. Please refer to the response to Comment U-1.

U-10 Water quality facilities may be located within the Larkspur Creek buffer area per Specific Plan Community Design Policy 69, Standards 73 and 74. These policies and standards call for grass swales and retention/detention ponds within the Larkspur Creek buffer (and the open space areas of Subarea 3) to provide interim ponding and treatment of first-flush stormwater runoff. As required by Standard 75, the areas that filter or detain stormwater shall be vegetated with native grasses and other native plants. In addition, these drainage features would improve water quality in Larkspur Creek by enabling pollutants to slow and settle, and the remaining water in the swales could also provide habitat for wildlife. Construction and operation of these water quality facilities would be implemented in accordance with the relevant Specific Plan policies and mitigation measures provided in the DEIR and they are not considered buildings. Therefore, habitat within the buffer area would not be substantially affected and the less-than-significant impact conclusion after mitigation is appropriate. Please also refer to the response to Comment U-1.

U-11 Comment noted. Please refer to response to Comment U-3.

U-12 Implementation of the native plant restoration plan will be a condition of any project approval in Subarea 3, as described in Mitigation Measure 4.5-2a, b (DEIR Page 4.5-21). Therefore, the developer will be required to implement the restoration plan. The native plant restoration plan will target the removal of French and Spanish broom, oleander, Himalayan blackberry, pampas or jubata grass, and fennel and will recommended native replacement species including arroyo and Pacific willow, coyote bush, native bunch grasses, toyon, and coast live oak. The restoration plan will include performance standards to ensure that the restoration effort is successful and monitoring reports submitted to the City annually for 5 years will have to report on how each project is meeting these performance standards. Implementation of Mitigation Measure 4.5-2a, b, including the native plant restoration plan and incorporation of stormwater treatment and detention features, would ensure the preservation and enhancement of the Larkspur Creek habitat. No change to the DEIR is required.

U-13 Specific Plan Transportation Standard 1.E mentions, "the planned replacement bridge for the existing Doherty Drive bridge over Larkspur Creek." This standard pertains to the design of the new bridge if it were to be built but no element of the Specific Plan would require bridge replacement.. Instead, Doherty Bridge replacement is included in the City's Capital Improvement Plan.

Future action to replace the existing Doherty Drive bridge over Larkspur Creek would require approval from the City of Larkspur. It is also the City's intention to conduct project-level environmental review of individual projects, including elements that cannot be known at this time. In the future when Doherty Drive improvements are proposed, the City will review the plans and designs, determine the content and degree of environmental review, and prepare the appropriate environmental document. Specifically, if a bridge replacement is proposed and found to adversely affect wetland habitat, the City would have to require the completion of a Section 404 (Clean Water Act) permit process, with the U.S. Army Corps of Engineers, through which compensatory mitigation for any wetland impacts would be required. Implementation of Section 404 compensatory mitigation would reduce wetland impacts associated with a future Doherty Drive bridge replacement to a less-than-significant level. However, as stated above, Doherty Bridge replacement is not considered a component of the Specific Plan, and is not analyzed in the DEIR because it is an independent action that is not required in order to implement the Specific Plan.

U-14 Community Design Policy 64 (Habitat Enhancement) states, "Possible enhancement actions include regrading of the northern portion of the creek to expand the wetland area." (It is noted that Specific Plan contains a text error in the reference to Figure 7-39; this figure is not included in and is not intended as a part of the Specific Plan.) However, no further details of this action are known at this time. The Specific Plan provides a framework for general future development within the Specific Plan area but it does not propose the development of any individual project. For this reason, the description of the Specific Plan Community Design Policies are general and are intended to guide potential future actions rather than provide complete descriptions of the actions.

Future action to regrade the northern portion of Larkspur Creek for wetlands would require approval from the City. Although the City intends to use the information in the DEIR for future projects to the maximum extent practicable to avoid repetitive discussion and duplication of effort, it is also the City's intention to conduct project-level environmental review of individual projects, including elements that cannot be known at this time. Therefore, when and if regrading the northern portion of the creek to expand the wetland area is proposed, the City will determine the content and degree of further site-specific environmental review if determined to be necessary and will prepare the appropriate environmental document. No change to the DEIR is required because it includes analysis at the level of detail that is appropriate for a program-level CEQA document.

U-15 Impacts to trees are addressed under Impact 4.5-1, Loss of Habitat for Common Plant and Wildlife Species. As stated on DEIR Page 4.5-16, no mature trees within the Specific Plan area would be removed; all trees that meet the definition of heritage trees and trees identified in the Specific Plan Community Design Standard 68 (Trees to be Retained) would be protected (see response to Comment L-3). Smaller native trees and shrubs described above that do not meet these criteria would be removed due to

Specific Plan development; however, their removal would not result in a significant impact under CEQA.

U-16 Mitigation Measure 4.5-2a, b (DEIR Page 4.5-21) provides a new policy requiring the developer of Subarea 3 to prepare a native plant restoration plan for the upland habitat in the Larkspur Creek buffer area. Recommended native replacement species include but are not limited to arroyo and Pacific willow, coyote bush, native bunch grasses, toyon, and coast live oak, which are all native to Marin County. The City may choose to require that the restoration plan only include species native to Marin; however, such a requirement is not necessary to reduce impacts to Larkspur Creek to a less-than-significant level.

Specific Plan Policy 59 (Streetscape Standards), Standard 53 (Street Tree Species) identifies tree species to be utilized on street frontages in the Specific Plan developments. The policy calls for both native and nonnative deciduous trees to be used to provide shade in summer and allow for sunlight during the winter; recommended native tree species include the following:

Quercus agrifolia	California Live Oak
Platanus racemosa	California sycamore
Celtis reticulate	Hackberry
Fraxinus latifolia	Oregon Ash

Because the use of non-native tree species for streetscaping purposes would not result in a significant impact, the DEIR does not include alterations of Specific Plan Policy 59 and Standard 53.

U-17 The preexisting development in the Specific Plan area is served by underground storm drains (described in Section 4.9, Public Services and Utilities) that would be improved to serve development under the Specific Plan. Therefore, some site drainage for projects would remain underground. As presented in Impacts 4.4-3 and 4.9-7 of the DEIR, the Specific Plan incorporates policies regarding stormwater runoff, including recommendations for upgrades to the culverts, and Best Management Practices to reduce the overall quantity of stormwater and its impact on site drainage facilities. Therefore, the DEIR considers the impact related to the drainage system as less than significant.

In addition to the upgrades and use of existing drainages, the Specific Plan incorporates measures for natural drainage features that would minimize discharge of surface pollutants to Larkspur Creek, Corte Madera Creek, and offsite drainage facilities by providing above ground drainage, stormwater detention, and bio-filtration.

Specific Plan Utilities Policy 11 (Pollutants) calls for minimizing discharge of surface pollutants by implementing techniques including (but not limited to):

- Infiltration systems such as basins and grassy swales to filter pollutants through the soil

- Stormwater retention and detention systems to reduce downstream peak flows, capture fine sediments and to allow wetland vegetation to uptake dissolved nutrients.
- Biofilters, including vegetated slopes and channels.
- Design approaches such as pervious concrete and porous asphalt, narrow streets to reduce impervious surfaces, and brick pavers on sand.

Specific Plan Community Design Policy 69 (Stormwater) includes standards to be incorporated into project development to minimize the flow of stormwater off-site and to allow bio-filtering of pollutants:

- Standard 72 Driveways and common parking areas should be constructed of permeable surfaces such as turf block or brick, asphalt or concrete pavers set in a sand bed.
- Standard 73 Open space landscape design should incorporate grass swales to provide interim ponding and treatment of first-flush runoff, which carries a high concentration of oils and other pollutants. The open space buffer along Larkspur Creek, the common space around the cottage homes, and the park areas in Subarea 3 all provide opportunities for such swales.
- Standard 74 Retention/detention ponds for holding and gradually releasing stormwater should be incorporated into the open space system of Subarea 3.
- Standard 75 Native grasses and other native plants should be used in areas that filter or detain stormwater or provide for protection or enhancement of natural habitats.
- Standard 76 Within Subarea 3, all Class 1 bikeways, and all footpaths located outside of a street right-of-way, shall be surfaced with pervious materials.

The grassy swales and detention ponds called for in Standards 73 and 74 (above) may be partially located within the Larkspur Creek buffer zone. However, these features would not be detrimental to the creek corridor. As required by Standard 75 (above), the areas that filter or detain stormwater shall be vegetated with native grasses and other native plants. In addition, as the commenter notes, these drainage features would improve water quality in Larkspur Creek by enabling pollutants to slow and settle and the remaining water could provide habitat for wildlife.

In addition to Specific Plan policies that minimize discharge of surface pollutants, Mitigation Measure 4.3-3 of the DEIR requires that the City adopt a new policy in the Specific Plan requiring the developer for either public or private projects to prepare an Erosion Control Plan for any construction activity, including those that involve less than one acre of disturbance area, to control the potential for stormwater to erode site soils

and cause them to enter the creeks. The Erosion Control Plan shall be in the form of a Stormwater Pollution Prevention Plan (SWPPP), shall be reviewed and approved by the City and the San Francisco RWQCB before the issuance of construction permits, and shall be implemented during construction activities and for the next rainy season following completion of construction.

U-18 The grassy swales and detention ponds called for in Specific Plan Community Design Policy 69 (Stormwater) Standards 73 and 74 (above) may be partially located within the Larkspur Creek buffer zone. However, these features would not be detrimental to the creek corridor. As required by Standard 75 (above), the areas that filter or detain stormwater shall be vegetated with native grasses and other native plants. In addition, these drainage features would improve water quality in Larkspur Creek by enabling pollutants to slow and settle and the remaining water could provide habitat for wildlife.

U-19 Impact 4.12-3 of the DEIR addresses the exposure to hazardous materials during removal of contaminated soil. The cancer risk associated with metals, chlorinated pesticides, and petroleum hydrocarbons in soil in Subarea 3 is at a level acceptable to the Cal/EPA and EPA (see DEIR, page 4.12-14). During remediation activities, hazardous materials could be released. Therefore, the City shall implement a new policy (per Mitigation Measure 4.12-3 of the DEIR) requiring the Removal Action Workplan (RAW) to be incorporated into projects before the issuance of construction permits and implemented during construction activities. The RAW includes provisions for safe removal, transportation, and disposal of contaminated soil from Subarea 3. Clean fill shall also be placed over much of Subarea 3, further reducing the potential for exposure to residual soil contamination by humans or wildlife. Because the RAW and Implementation Plan would be reviewed by DTSC for compliance with all applicable laws and regulations, including those associated with dieldrin and lead, any impacts would be less than significant. Therefore, the DEIR concluded that potential impact of exposure to hazardous materials would be reduced to a less-than-significant level. See also response to Comment R-18.

U-20 See responses to Comments R-4 and R-17. Three alternatives were considered in the RAW. The RAW states that No Action alternative is not feasible because it would not be compatible with the land use types proposed in the Specific Plan. The RAW considers the Excavation, Consolidation, and Soil Washing alternative potentially feasible but, because it would require special precautionary efforts because soil washing vapor and may ultimately require offsite disposal pending on soil type and other variables, it would be more expensive than the chosen alternative, which is the Excavation and Off-Site Disposal alternative. Under the chosen alternative, a total of 904 cubic yards of soil is planned to be removed during remedial activities. The soils would be excavated and hauled offsite as directed by a DTSC-approved RAW and Implementation Plan. Dewatering of the excavation areas shall be performed in compliance with the occupational safety and health guidelines of Cal/OSHA and OSHA in a manner that allows discharge to the sanitary sewer system. A demolition plan for safe demolition of

existing structures in Subarea 3 shall be incorporated into projects prior to the issuance of construction permits and implemented during construction activities. In addition, a DTSC-approved Implementation Plan will include a Health and Safety Plan (HSP), Transportation Plan, and Contingency Plan in accordance with Title 8 of the California Code of Regulations Section 5192, California Health and Safety Code Section 25160, and Title 22 of the California Code of Regulations Section 66263 to assure that all remediation activities are protective of human health and the environment.

As with construction earthmoving activities, developers would be required to implement Mitigation Measure 4.3-3 and prepare and implement a SWPPP for site remediation activities. This mitigation requires the developer to prepare an Erosion Control Plan for any construction activity, including those that involve less than one acre of disturbance to control the potential for stormwater to erode site soils and cause them to enter the creeks. The plan shall be in the form of a SWPPP and shall be reviewed by the City and the San Francisco RWQCB before the issuance of construction permits. The plan shall be implemented during construction activities and during the next rainy season following completion of construction. The Erosion Control Plan shall comply with the City's Grading Ordinance and shall state that grading and earthmoving shall not occur during the rainy season. A vegetated buffer at least 50 wide shall be protected during grading/earthmoving next to Larkspur Creek. The buffer shall be at least 50 feet wide from the top of bank on the north/south reach of the creek at the eastern edge of the Specific Plan area and at least 25 feet wide from the top of bank on the east/west reach of the creek at the southern edge of the Specific Plan Area. See also response to Comment U-3. Silt fencing and straw bales shall be used along Larkspur Creek to trap any silt flows from unvegetated ground.

The effects of Specific Plan on the biological resources of Larkspur Creek are addressed in Impact 4.5-2. Mitigation Measure 4.5-2 requires the City to include new policies to protect and enhance the habitat on the banks of Larkspur Creek and in the buffer area. The three new policies require preparation of a native plant restoration plan, prohibition of bikeways or footpaths within the buffer zone, construction of fencing along the outside edge of the buffer, and installation of interpretive signs alerting people to the nearby sensitive habitat.

The DEIR identified the impacts of construction activities, including remediation, on Larkspur Creek as potentially significant. Specific Plan policies and DEIR mitigation measures, including Mitigation Measures 4.3-3 and 4.5-2, reduce the impact of these activities on the creek to a less than significant level.

U-21 Impact 4.12-3 of the DEIR addresses the exposure to hazardous materials during removal of contaminated soil. As required by Mitigation Measure 4.12-3, all remediation activities would be implemented in compliance with the RAW and the HSP.

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February 11, 2004

VIA OVERNIGHT DELIVERY
Mr. Robert Pendolay
Project Manager
Larkspur Planning Department
400 Magnolia Avenue
Larkspur, CA 94939

Re: Revised Draft Environmental Impact Report for Central Larkspur Specific Plan

Dear Mr. Pendolay:

This firm represents a group of Larkspur residents known as Citizens for Rational Growth ("CRG") in its review of the Revised Draft Environmental Impact Report ("Revised DEIR") for the Central Larkspur Specific Plan project ("Project" or "Specific Plan"). CRG provided comments on the first DEIR for this Project, and has been extensively involved in Central Larkspur Area Specific Plan ("CLASP") process. To save time and expense of each individual resident involved in CRG submitting a letter responding to the Revised DEIR, we have been asked to submit one letter on behalf of the group to summarize their concerns.

The purpose of this letter, along with the attached traffic report from Tom Brohard and Associates, is to inform the City of Larkspur that the Revised DEIR fails to comply with the requirements of the California Environmental Quality Act ("CEQA"), Public Resources Code § 21000 et seq., and the CEQA Guidelines, California Code of Regulations, title 14, § 150000 et seq. ("Guidelines"). The majority of the document's deficiencies were pointed out in our September 4, 2002 comment letter, submitted on behalf of CRG, on the first DEIR. Despite CRG's specific recommendations, the Revised DEIR still (1) fails to provide a stable, accurate and detailed project description, thus undermining every aspect of the impacts analysis, (2) fails to perform any meaningful V-1

analysis of consistency with the City's General Plan and other applicable planning documents, (3) fails to accurately evaluate numerous project impacts, including impacts regarding traffic, circulation and parking, noise, air quality, and visual, public services, cumulative and growth-inducing impacts and (4) fails to provide a detailed and meaningful alternatives analysis.

This letter also explains how the Specific Plan fails to comply with the state statutory requirements governing the contents of specific plans. See Gov. Code § 65450 et seq. Moreover, because the Revised DEIR's proposed mitigation for traffic impacts conflicts with the City of Larkspur's General Plan and Downtown Specific Plan, the City cannot approve this Project without creating unlawful inconsistencies with these planning documents. V-1 Cont'd

I. INTRODUCTION

The proposed Specific Plan would pave the way for intensive development of hotel and retail uses, as well as 104 dwelling units on vacant and redevelopable lands in Central Larkspur. The majority of the development would take place on Parcel 7, the Niven Nursery parcel. In contrast to the extensive development proposed by this Project, Larkspur's General Plan sets forth a policy for development on such lands intended to: "Maintain Larkspur's small-town character." Larkspur General Plan, Chapter 2, Land Use, Goal 14, at 35 (1990). Similarly, the General Plan provides for development of much of the project area only after preparation of a specific plan which adequately addresses traffic impacts, among other concerns. For example, with respect to the Niven Parcel, the General Plan states: V-2

> The 17.9-acre Niven Nursery property fronting on Doherty Drive is designated Low Density Residential. However, the present wholesale and retail nursery uses on the site are viewed as desirable and will be allowed to remain indefinitely. The property will be rezoned when it is no longer used for nursery, and a Specific Plan will be required before the property is redeveloped in any use other than nursery. Some parts of this site may have potential for higher density residential – such as housing that is affordable to seniors and others – and commercial development, but potential problems with traffic, as well as transition to adjacent uses, must be addressed first.

General Plan at 39-40 (emphasis added). Despite this clear mandate, the Specific Plan's proposal would create traffic, safety and related impacts that are contrary to the these General Plan policies. V-2 Cont'd

The EIR for this proposal should be of the highest quality, giving both decisionmakers and the public a full opportunity to understand and analyze the environmental effects of the Project. Unfortunately, the Revised DEIR, like its predecessor, does not come close to achieving this goal. A central problem with the document is that its analysis is skewed in favor of the proposed Project. This bias is apparent in its selective utilization of traffic data, and in the resulting rosy portrayal of the Project's traffic, air quality and noise impacts. V-3

Equally troubling, the Revised DEIR fails to analyze a reasonable range of alternatives. Indeed, the so-called "environmentally superior" Lower Density alternative fails to avoid any of the Project's significant and unavoidable impacts, offering no real environmental advantage over the proposed Project. Moreover, the Lower Density alternative was set up as a "straw man," rejected out of hand for failing to meet the City's affordable housing goals. V-4

These and other major defects described below render the Revised DEIR and Specific Plan inadequate as a basis for informed decision-making, and legally deficient under both CEQA and planning and zoning law. Accordingly, the documents must be revised to address these deficiencies and recirculated for public review and comment. V-5

II. THE REVISED DEIR DOES NOT COMPLY WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT.

A. The Revised DEIR Fails to Adequately Describe the Project and Provide Complete Information About the Existing Environmental Setting.

V-6

1. The Revised DEIR's Project Description Is Flawed.

Despite CRG's September 4, 2002 comments explaining CEQA's requirement for a stable and accurate project description, the Revised DEIR contains inconsistencies that make it difficult to determine the scope of the Project, and impossible to accurately gauge its impacts. As set forth in our previous letter, an EIR's project

description must contain "[a] general description of the project's technical, economic, and environmental characteristics, considering the principal engineering proposals if any and supporting public service facilities." Guidelines § 15124(c). "An accurate, stable and finite project description is the sine qua non of an informative and legally sufficient EIR." County of Inyo v. City of Los Angeles, 71 Cal.App.3d 185, 192 (1977).

The Revised DEIR contains a table entitled "Theoretical Maximum Intensity in Development Subareas." Revised DEIR at 2-23 (Table 2-7). However, the theoretical maximum developable retail space in Subarea 1 on this table (58,100 square feet) is inconsistent with the figure used in the document's traffic analysis (46,565 square feet). Compare Table 2-7 with Table 4.7-6. Similarly, the Revised DEIR contains a conflicting estimate of the total residential units that may be built in Subarea 1. Compare Table 2-1 (28 units) with Table 2-7 (0 units). V-6 Cont'd

The document's unstable project description completely undermines its environmental impacts analysis. For example, the differing quantities of retail square footage underestimates traffic impacts and results in inadequate mitigation proposals. See Brohard Report at 1, attached hereto as Exhibit 1. Because the traffic analysis should have relied on the higher retail figures in Table 2-1, the Revised DEIR's analysis of air quality and noise impacts are significantly understated as well. In light of these deficiencies, the project description section of the Revised DEIR must be further revised so that the public and decision-makers have sufficient information to understand the project's true environmental impacts.

2. The Revised DEIR Fails to Provide an Adequate Description of the Project Setting.

An EIR "must include a description of the environment in the vicinity of the project, as it exists before the commencement of the project, from both a local and a regional perspective." Guidelines § 15125; see also Environmental Planning and Info. Council v. County of El Dorado, 131 Cal. App. 3d 350, 354 (1982) ("EPIC"). V-7 Knowledge of the regional setting is critical to the assessment of environmental impacts. CEQA requires that special emphasis be placed on environmental resources that are rare or unique to that region and that would be affected by the Project. Guidelines § 15125(c). This requirement derives from the principle that in the absence of an adequate description of the project's local and regional setting, it is not possible for the EIR to accurately assess the potentially significant impacts of the project.

Despite CRG's specific comments on the first DEIR, the Revised DEIR yet again fails to accurately describe the project setting with respect to school capacity. Indeed, the document did not address Hall Middle School, which is directly across Doherty Drive from the proposed Niven property development of 85 units and neighboring Redwood High School. Specifically, CRG provided the City with a copy of "Accommodating Enrollment Growth, Capital Improvement Planning for the Larkspur School District," May 1998 ("Schools Report," attached hereto as Exhibit 2). This Report states "[t]he District's schools are not large enough to house the enrollments that we expect during the coming years." Schools Report at 6. The Report also expressly notes that this infrastructure deficit exists even without taking the Nivens development into account. Id. at 2 ("The completion of the Creekside project and the Nivens property were not taken into consideration in the projections."). In direct contravention of the City's duty to disclose environmental impacts of the project, the City completely ignored the Schools Report in the Revised DEIR. The City's oversight not only confounds reason, but also makes it impossible for the Revised DEIR to "permit the significant effects of the project to be considered in the full environmental context." Guidelines § 15125(d). The project description and analysis of impacts to schools must be revised to include this information.[1] V-8

The Revised DEIR also significantly misstates the project setting with respect to traffic conditions and roadways in the project area. As detailed in the Brohard Report, the Revised DEIR uses artificially low traffic volumes as a baseline for its traffic analysis. Brohard Report at 2-3. Specifically, the Revised DEIR shows that the traffic on Magnolia decreased from 15,680 average daily trips in 1999 to 12,880 ADT in 2003. Revised DEIR at 4.7-6. The DEIR fails to account for this dramatic decline in traffic, which drops to levels not seen since the late 1980s. See General Plan at 65 ("The Average Daily Traffic (ADT) on Magnolia in the vicinity of King Street was about 12,000 in 1988, a heavy volume for a constricted two-lane roadway."). As explained in the Brohard Report: V-9

> [B]ased on information provided in the City's General Plan, traffic on Magnolia Avenue was approximately 12,000 average daily trips in 1988. The Revised DEIR states that traffic increased to 15,680 average daily trips in 1999, which

[1] As discussed below, the Central Larkspur Specific Plan must also be revised to disclose this information.

> represents a rate of approximately three percent per year. Following such an increase, it would be highly unusual to see traffic drop by 20 percent on Magnolia, to the level of 12,880 average daily trips in 2003. (Revised Draft EIR at 4.7-6.) It is my professional opinion that "economic conditions" do not explain this highly unusual decline in traffic.

V-9 Cont'd

Brohard Report at 2. Moreover, the Revised DEIR's reliance on this low baseline ignores actual experiences of residents. In light of this aberrational baseline figure, the City should have conducted new daily and peak hour baseline traffic counts. Brohard Report at 3. Because the Project Setting fails to include proper baseline figures, the Revised DEIR's resulting traffic analysis fails to provide the information necessary to evaluate impacts.

B. The Revised DEIR's Analysis of Environmental Impacts and Proposed Mitigation Measures Are Inadequate Under CEQA.

An EIR must effectuate a fundamental purpose of CEQA: to "inform the public and responsible officials of the environmental consequences of their decisions before they are made." Laurel Heights Improvement Assn. v. Regents of the University of California, 6 Cal.4th 1112, 1123 (1988). To do so, an EIR must contain facts *and* analysis, not just an agency's bare conclusions. Citizens of Goleta Valley v. Board of Supervisors, 52 Cal.3d 553, 568 (1990). Consistent with this requirement, the information regarding the project's impacts must be "painstakingly ferreted out." EPIC, 131 Cal.App.3d at 357 (finding an EIR for a general plan amendment inadequate where the document did not make clear the effect on the physical environment).

V-10

Additionally, an EIR must identify feasible mitigation measures to mitigate significant environmental impacts. Guidelines § 15126.4. Under CEQA, "public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects. . . ." Pub. Res. Code § 21002.

Despite CRG's detailed comments on the first DEIR, the Revised DEIR duplicates many of the same errors and omissions that render it impossible for the City and the public to make an informed decision about the Project. Indeed, the Revised DEIR's discussion of land use and planning, noise, visual and public services impacts fails to meaningfully address any of CRG's previous comments. Furthermore, while

some of CRG's comments on traffic were addressed, the revised traffic analysis, as discussed below, uses undisclosed traffic counts that do not appear to be based on reality. Because of these and numerous other shortcomings, there is no substantial evidence to support the Revised DEIR's conclusion that traffic, noise, air quality, public services and visual impacts can be mitigated to a less-than-significant level. Moreover, the document's conclusory impacts analysis obfuscates its ability to identify measures to mitigate impacts of the Specific Plan. V-10 Cont'd

1. The DEIR Fails to Adequately Analyze Traffic and Parking Impacts.

The City's failure to address CRG's comments and, as a result, comply with CEQA is clearly demonstrated by its revised traffic analysis. Again, the document fails to adequately disclose, analyze and mitigate traffic and circulation impacts. The traffic consultant retained by CRG, Tom Brohard and Associates, has detailed these defects in the report attached hereto as Exhibit 1.

The failures detailed in the Brohard Report produce not only a distorted impacts analysis, but also prevent the Revised DEIR from serving as a useful document to provide mitigation for the true impacts of the project. For example, one of the document's glaring deficiencies is its reliance on traffic count data that so understates traffic on Magnolia Avenue that it resembles daily volumes from the late 1980s. See Brohard Report at 2-3; General Plan at 65. Similarly, the document's reliance on only 46,565 square feet of retail space (Revised DEIR at 4.7-20), 11,535 less than the theoretical maximum (id. at 2-23), grossly underestimates traffic generated by retail and commercial land uses. Brohard Report at 1-2. These baseline deficiencies undermine the document's level of significance findings, as well as the effectiveness of mitigation measures. V-11

These defects are all the more troubling in light of the City's prior assurance that traffic concerns would be carefully considered. See, e.g., City Council Goal 1 ("Traffic impact is a major constraint on development in the Plan area. The density and mix of land uses will be balanced to minimize traffic impacts."). Moreover, as discussed in further detail below, the Revised DEIR's proposal to mitigate traffic impacts by installing a traffic signal on King/Magnolia (4.7-3) creates an unlawful inconsistency with the City's General Plan and Downtown Larkspur Specific Plan. In light of all of these and other defects identified in the Brohard Report, the City must further revise its

Revised DEIR to conduct a proper traffic analysis, and analyze *feasible* mitigation for the Project's significant impacts. V-11 Cont'd

2. The Revised DEIR's Analysis of Land Use Impacts Is Conclusory and Inadequate.

The Revised DEIR fails to remedy the numerous shortcomings of the City's first attempt at CEQA compliance. As explained above and in CRG's previous comment letter, the DEIR must contain facts and analysis, not just the City's bare legal conclusions. Citizens of Goleta Valley, 52 Cal.3d at 568. However, rather than comply with CEQA's mandate, the Revised DEIR merely lists some of the General Plan and Downtown Larkspur Specific Plan goals and policies applicable to the Specific Plan area (Revised DEIR at 4.1-5 to 4.1-8), and then concludes, without analysis, that the proposed Project is consistent with these policies. Indeed, the so-called impacts analysis selectively discusses plan policies and zoning standards in order to reach its finding that the Project will not create any significant land use and planning impacts.

The document's skewed impacts analysis ignores, on the other hand, policies such as "maintain Larkspur's small-town character" (General Plan Goal 14) and "preserve the historic, human-scaled, pedestrian-oriented character of the Downtown" (Downtown Larkspur Specific Plan Goal 1). The Revised DEIR also fails to explain how a 30- to 36-room hotel on Parcel 1 could be considered consistent with the City's following adopted goals and policies: V-12

- Maintain the existing scale of commercial establishments (smaller services and retail business), and the pedestrian orientation of the Old Downtown (General Plan Policy i regarding Downtown);
- Maintain Larkspur's small-town character (General Plan Goal 14 regarding "build-out");
- Visually integrate the various sections of the community (General Plan Policy d regarding character of the community);
- Ameliorate the impact of traffic on Larkspur's quality of life (General Plan Goal 3 regarding circulation); V-13

- Mitigate the traffic impact of new development (General Plan Goal 17 regarding circulation);
- Reduce demand for parking in retail areas (General Plan Policy ab regarding circulation); V-13 Cont'd
- Maintain adequate off-street parking Downtown (General Plan Policy ac regarding circulation);
- Preserve the historic, human-scaled, pedestrian-oriented character of the Downtown (Downtown Specific Plan Goal 1);
- Create a human-scaled building ensemble composed of elements reflecting the architectural scale of existing buildings in the Downtown (Downtown Specific Plan goal for Parcel 1); V-14
- Maintain and enhance of an intimate human scale and the existing historical urban fabric (Downtown Specific Plan goal for Parcel 1).

Furthermore, had the City actually performed the proper analysis, it would have discovered that Mitigation Measure 4.7-3 (install traffic signal at King/Magnolia) is inconsistent with both the General Plan and Downtown Specific Plan. See infra Part IV. Because inconsistencies with land use plans are significant environmental impacts, CEQA requires that the Revised DEIR be further revised to analyze and disclose these impacts. The City must also evaluate other potentially feasible mitigation measures that would lessen the identified traffic impacts while at the same time complying with the City's General Plan. Otherwise, the City will continue to run afoul of CEQA's requirement to avoid environmental impacts whenever feasible. Moreover, the Revised DEIR's truncated and conclusory land use impacts "analysis" leaves decisionmakers and the public wondering how many other undisclosed inconsistencies would be created by the proposed Project. V-15

Additionally, as explained in CRG's previous letter, the Revised DEIR must disclose that the Specific Plan proposes developing up to 85 units on the Niven parcel when the Larkspur General Plan's Housing Element does not permit that number of units on that parcel. V-16

The Revised DEIR's inadequate land use analysis also undermines the alternatives analysis, which similarly fails to evaluate the project alternatives' consistency with the applicable planning documents and concludes, erroneously and without substantial evidence, that the Project and two alternatives are identical in their consistency with the General Plan. In sum, the conclusory land use analysis is not supported by substantial evidence and must be revised and recirculated. V-17

3. The DEIR Fails to Adequately Analyze Geology and Water Quality Impacts.

In its previous September 4, 2002 letter, CRG commented on the DEIR's failure to include geotechnical data on the eastern portion of the Specific Plan area. This information is particularly important in light of the seismicity of the area, its potential for subsidence and liquefaction, and the existing subsidence problems along Dougherty Drive. Rather than including the appropriate geotechnical analysis, the Revised DEIR excuses this omission by claiming that such investigations "would not typically be prepared until development proposals are presented to the City." Revised DEIR at 4.3-2. However, the City's approach contradicts the purpose of and methodology required by a programmatic EIR. As explained by the Court of Appeal, "'tiering' is not a device for deferring the identification of significant environmental impacts that the adoption of a specific plan can be expected to cause." Stanislaus Natural Heritage Project v. County of Stanislaus, 48 Cal.App. 4th 182, 199 (1996); see also Sundstrom v. County of Mendocino, 202 Cal.App.3d 296, 306 (1988) ("The agency should not be allowed to hide behind its own failure to collect data."). The City's failure to investigate soils in the eastern Specific Plan area violates CEQA's requirement that site characteristics and potential impacts be evaluated and disclosed *before* project approval. V-18

Additionally, the document's analysis of erosion and water quality impacts fails to address potential impacts on Larkspur and Corte Madera Creeks. While the document recognizes that construction activities in the Specific Plan area could potentially impact Larkspur Creek, which is a tributary to the Corte Madera Creek, Revised DEIR at 4.3-13, it simultaneously acknowledges that the City has no data indicating existing sediment levels in Larkspur Creek. Id. at 4.4-8. Without such information, the City has no basis for concluding that soil erosion and impacts to freshwater and wetland areas will be mitigated to a less-than-significant level. See id. at 4.3-17, 4.4-21. Moreover, the 10-year-old Corte Madera Creek data that the City does have indicates that the "main existing water quality problems are erosion/siltation and the presence of high coliform bacteria during the wet winter months." Id. at 4.4-9. Rather V-19

than perform an analysis of impacts to water quality, the Revised DEIR relies on the preparation of a Storm Water Pollution and Prevention Plan ("SWPPP"), to conclude that geology impacts would not be significant. DEIR at 4.3-18. However, deferring the preparation of such plans until after Project approval renders the Revised DEIR useless as an informational and planning document, and defeats CEQA's purpose of alerting decision-makers and the public to environmental impacts when mitigation measures can still be imposed and alternatives considered. See Sundstrom, 202 Cal.App.3d at 306-07. Thus, the DEIR's conclusion that implementation of the SWPPP will result in no significant impacts is simply not supported by evidence in the Revised DEIR. V-19 Cont'd

4. The Revised DEIR Fails to Adequately Analyze Air Quality Impacts from Project Construction and Implementation.

The Revised DEIR underestimates and fails to analyze air quality impacts arising from Project construction and implementation. First, as discussed above, the Revised DEIR underestimates the number of trips to and from the project site because it relies upon unrealistic trip generation counts, rates that are reminiscent of the late 1980s. Had the document relied upon accurate trip generation rates, it would have determined that the increase in project related air emissions is even greater than the levels identified in the Revised DEIR. V-20

In addition, the Revised DEIR fails to analyze impacts resulting from the use of diesel powered engines during Project construction. The combustion of diesel fuel in engines produces diesel exhaust, which contains some 40 compounds that are listed by the U.S. Environmental Protection Agency as hazardous air pollutants and by the California Air Resources Board ("CARB") as toxic air contaminants. Diesel particulate matter ("PM") emitted from diesel exhaust is a serious public health concern. It has been linked to a range of serious health problems including an increase in respiratory disease, lung damage, cancer and premature death. Fine diesel particles are deposited deep in the lungs and can result in increased respiratory symptoms and disease, particularly in children and individuals with asthma. On August 27, 1998, after extensive scientific review and public hearing, the CARB identified particulate emissions from diesel-fueled engines as a toxic air contaminant. In addition, the U.S. EPA has promulgated standards on fine particulate matter ($PM_{2.5}$). Substantial information has been published, for example, demonstrating that fine particulate matter causes significant health impacts at concentrations that are much lower than existing air quality standards. V-21 V-22

While the Revised DEIR notes that "construction equipment could emit substantial amounts of diesel exhaust," this statement raises more questions that it answers. What levels of PM_{10} and $PM_{2.5}$ would be generated by the project? Over what periods of time? The document's failure to analyze and quantify construction-related air quality impacts is particularly troubling since Marin County exceeds PM_{10} standards for diesel exhaust every year. See Revised DEIR at 4.6-4. V-23 V-24

Furthermore, the Revised DEIR fails to explain how the numerous mitigation measures designed to reduce emissions of dust and diesel exhaust will be enforced. See DEIR at 4.6-14 to 4.6-15 (Mitigation 4.6-5a, b). An EIR is inadequate if its suggested mitigation measures are so undefined that it is impossible to evaluate their effectiveness. San Franciscans for Reasonable Growth v. City and County of San Francisco, 151 Cal.App.3d 61, 79 (1984). "Mitigation measures must be fully enforceable through permit conditions, agreements, or legally binding instruments." Guidelines § 15126.4(a). The Revised DEIR fails to explain how the construction mitigation will be enforced. It is unrealistic to assume that a construction contractor will, for example, "[s]uspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph." Id. (mitigation no. 10). Moreover, what does it mean that the contractor will "replant vegetation in disturbed areas as quickly as possible"? Id. (mitigation no. 8). CEQA requires that these vague proposals be clarified, and their method of enforcement explained. V-25

Finally, the Revised DEIR does not propose any traffic demand measures to mitigate the increase in emissions from increased traffic. Instead, the document proposes mitigating the potentially significant air quality impacts stemming from the construction of 104 residential units, a 36-room hotel, and up to 51,065 square feet of retail space with a single mitigation measure: prohibiting residential wood stoves. See Revised DEIR at 4.6-13. However, there are many additional feasible measures that could mitigate potentially significant impacts from traffic exhaust that are not required in this DEIR. These include: V-26

- Encourage the provision of park and ride lots and implement carpool/vanpool programs.
- Provide short-term bicycle parking for retail customers and other non-commute trips.

- Provide secure, weather-protected bicycle parking. One bicycle parking space for every 10 car parking spaces is recommended.
- Provide direct, safe bicycle access to adjacent bicycle routes. V-26 Con't
- Provide preferential parking locations for low-emission vehicles, e.g., hybrids.
- Reduce parking fees for low-emission vehicles.

CEQA directs public agencies to avoid or reduce environmental damage when possible by requiring alternatives or mitigation measures. Guidelines §§ 15002(a)(2) and (3); see also Citizens of Goleta Valley, 52 Cal.3d at 564. Where several potential mitigation measures are available, each should be discussed separately and the reasons for choosing one over the other should be stated. Guidelines § 15126(c). V-27 The Revised DEIR does not contain any discussion of why these additional traffic-related measures are not feasible for the Project. Therefore, the above-listed measures should be assumed feasible unless otherwise demonstrated, and used by this Project to reduce traffic emissions to the extent feasible.

5. The DEIR Fails to Adequately Analyze Noise Impacts.

As described above and in the Brohard Report, the DEIR's traffic impact analysis relies on absurdly low traffic counts reminiscent of two decades ago and, as a V-28 result, underestimates traffic impacts. Given that the traffic generated by the project will impact the noise environment, the analysis of noise impacts must be revised in light of a sound traffic analysis based on substantial evidence.

In addition, the Revised DEIR fails to address the serious concerns raised by some of the residents neighboring the site regarding the timing of the noise studies. V-29 See Letter from Deborah Busse (August 26, 2002), attached as Exhibit 3. This letter calls into doubt the noise and vibration analysis because it was conducted at a time when high school seniors at Redwood High School were allowed to take half days, and when V-30 groundwater levels were artificially low. See id. at 2.

6. The Revised DEIR Fails to Adequately Analyze Impacts to Public Services and Utilities.

As explained in CRG's previous letter, the DEIR must analyze the effects of traffic congestion on response times for police, fire and emergency protection services, as well as its impact on access to Redwood High School. The Revised DEIR's analysis of impacts to public services completely ignores these comments. Furthermore, the document's analysis of impacts to police services is contradictory and confusing. The document states that the Project, when combined with regional population growth in the area, "could mean that additional police officers, support staff, and related equipment would be required to effectively maintain existing services levels and response times." Revised DEIR at 4.9-8. It further states that the Police Department is preparing a bond measure for the ballot to provide funds for the construction of a new police station. Id. However, despite these increased demands on the Police Department's services impacts and the Department's reaction to these impacts, the DEIR summarily concludes that the Project would not cause any significant or cumulatively significant impacts to police services. This conclusion is unsupported by the evidence. V-31 V-32

The Revised DEIR acknowledges that the Project would require the Larkspur School District to absorb an additional 76 students. However, the document fails to cite, refer to, or even mention the attached Schools Report, which concludes that the District is already at full capacity and is not large enough to house the enrollment expected in the coming years, even without considering the residential development contemplated in the Specific Plan. See Schools Report at 6. Instead of analyzing this published document, the City relies on personal communications with school officials. Revised DEIR at 4.9-5 to 4.9-6. The City's approach violates CEQA. V-33

Moreover, the Revised DEIR fails to remedy the shortcomings CRG pointed out in its last letter with respect to its analysis of wastewater services facilities. Specifically, the Revised DEIR acknowledges that buildout of the Specific Plan could require upgrades to the existing wastewater facilities. Revised DEIR at 4.8-10; Specific Plan at 6-3. Nevertheless, the document fails to identify, analyze, or disclose the impacts of constructing these new treatment facilities. This is particularly disturbing because even the limited information contained in the Revised DEIR suggests that these impacts will exceed the document's significance criteria for impacts to public services. Revised DEIR at 4.9-5. V-34

Furthermore, the document defers its analysis of necessary wastewater treatment facility upgrades to sometime in the future: "[w]hen development plans are submitted for individual parcels within the Specific Plan area, the District will review them to determine if the existing system capacity constraints would limit its ability to provide sewer service, and will identify specific upgrading measures that may be necessary to provide sufficient capacity to support the individual development projects in the Specific Plan area." Id. at 4.9-10 (citing telephone conversation with Barry K. Hogue, District Manager, Ross Valley Sanitary District #1 on May 22, 2002). CEQA prohibits agencies from deferring analysis to some point in the future where it could reasonably be conducted before project approval. Sundstrom, 202 Cal.App.3d at 309. In addition to conducting at least a program level analysis of these impacts prior to considering the Specific Plan, if the City intends to approve the Project, it must ensure that more detailed review is conducted prior to the approval of any subsequent development plans. The Ross Valley Sanitary District's statement by phone that it will conduct such a review is not sufficient to assure the review will take place. V-35

7. The DEIR Fails to Adequately Analyze Visual and Aesthetic Quality Impacts.

In its September 4, 2002 letter, CRG explained that visual impacts should be analyzed using photomontages or visual simulations, rather than mere narrative descriptions.[2] Despite the City's awareness of this accepted approach, the Revised DEIR V-36

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[2] Stated again, the accepted approach to analyzing visual and aesthetic impacts is as follows:

a. Describe the criteria for significance thresholds.
b. Characterize the existing conditions of the project site and the surrounding area by photograph and description, and select key viewpoints within the area, including scenic corridors and landscapes.
c. Using photomontages or visual simulations, illustrate the change in character of the project site before and after project implementation.
d. Identify feasible mitigation measures and alternatives to reduce or eliminate significant impacts.
e. Where mitigation measures are proposed, use the simulations to illustrate the change in character before and after project mitigation measures are imposed (e.g., landscaping at various stages of growth,

again provides merely a narrative description of visual impacts. For example, it recites the protective policies applicable to the Specific Plan area and concludes that development of 85 dwelling units on the Nivens parcel will "create a distinctive neighborhood appearance and pedestrian-oriented living environment." DEIR at 4.10-11. V-36 Cont'd

Similarly, the document assures its readers that hotel development in Subarea 1 will not degrade the visual character of Central Larkspur because development must conform to protective design policies, but entirely fails to actually analyze the impact of such a hotel. See id. V-37

In contrast to the sparse narrative currently provided, the Revised DEIR should have used photomontages or visual simulations so that decisionmakers and the public could evaluate the aesthetic impacts of the project. Indeed, it is impossible for decisionmakers to visualize how 85 residential units on the Nivens parcel would result in the promised "distinctive neighborhood appearance and pedestrian-oriented living environment." DEIR at 4.10-11. Moreover, without such analysis, decisionmakers cannot determine whether the Project should be rejected in favor of a lower density alternative. V-38

C. The Revised DEIR Fails to Adequately Analyze Cumulative Impacts.

CEQA requires agencies to consider the cumulative impacts of a project (i.e., the incremental effects of the project viewed together with the effects of past, current, and probable future projects). Pub. Res. Code § 21083(b); Guidelines §§ 15130, 15355. The Supreme Court has described an EIR's cumulative impacts analysis as a "vital provision" of CEQA. Bozung v. LAFCO, 13 Cal.3d 263, 283 (1975). As a result, numerous courts have invalidated EIRs that failed to adequately analyze cumulative impacts. V-39

A legally adequate cumulative impacts analysis views a particular project over time and in conjunction with other related past, present, and reasonably foreseeable probable future projects whose impacts might compound or interrelate with those of the project at hand. "Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time." Guidelines § 15355(b). The

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setbacks, clustering, reduced scale and height, building color modification).

Revised DEIR for the Central Larkspur Specific Plan failed to adequately analyze the cumulative impacts of the Project on noise and air quality.

The Revised DEIR's discussion of cumulative noise impacts fails to analyze the impacts of the Project in light of existing exceedences of noise levels in the Specific Plan Area. Instead, the document finds the cumulative noise impact to be less than significant because "Specific Plan-generated traffic noise increase would not be perceptible under cumulative conditions where existing traffic noise already exceed the City's standards." Revised DEIR at 4.8-17. This "de minimis" approach to cumulative impacts analysis was rejected in Kings County Farm Bureau v. City of Hanford, 221 Cal.App.3d 692, 718 (1990), where the court invalidated an EIR that relied on the magnitude of an existing ozone pollution problem in order to trivialize the project's impact. The Kings County court concluded: V-39 Cont'd

> The relevant question to be addressed in the EIR is not the relative amount of precursors emitted by the project when compared with preexisting emissions, but whether any additional amount of precursor emissions should be considered significant in light of the serious nature of the ozone problems in this air basin.

Id. See also Communities for a Better Environment v. Calif. Resources Agency, 103 Cal.App.4th 98, 118 (2002) (reaffirming Kings County and rejecting the de minimis approach to cumulative impacts analysis). The Revised DEIR's cumulative impacts analysis of the Project's impacts to noise pollution in the Specific Plan area must be revised to explain and quantify the Project's contribution to existing noise problems.

With respect to air quality, the Revised DEIR recognizes that Marin County PM_{10} levels exceed acceptable annual average standards every year. Revised DEIR at 4.6-14. Nevertheless, the cumulative impacts discussion fails to mention the impact of construction, vehicle trip generation and wood smoke emissions on existing $PM_{2.5}$ and PM_{10} levels. As discussed above, the City cannot assume that these impacts are de minimis in light of existing PM exceedences. V-40

D. The Revised DEIR's Discussion of Growth-Inducing Impacts Is Inadequate Under CEQA.

The Revised DEIR fails to properly analyze growth inducing impacts, in contravention of Public Resources Code section 21100(b)(5) and CEQA Guidelines section 15126.2(d). While the growth-inducing impacts of a project need not necessarily be labeled as adverse, the secondary impacts of growth (e.g., loss of open space/habitat/agricultural lands, air quality, transportation, etc.) may be significant and adverse. In such cases, the secondary impacts of growth inducement must be disclosed as significant secondary or indirect impacts of the project.

The appropriate components for an adequate analysis include: (1) estimating the amount, location and time frame of growth that may occur as a result of the project (e.g., additional housing, infrastructure, and mixed use developments); (2) applying impact assessment methodology to determine the significance of secondary or indirect impacts as a result of growth inducement; and (3) identifying mitigation measures or alternatives to address significant secondary or indirect impacts. The DEIR's growth-inducing impacts analysis fails to contain any of these essential components. V-41

For instance, the Revised DEIR fails to disclose and analyze secondary impacts to school facilities, traffic infrastructure and wastewater facilities. This shortcoming is particularly troubling since the document acknowledges that "if infrastructure and facilities were oversized, or extended to areas outside of the Specific Plan area, they would induce growth by providing capacity to areas not intended for development." Revised DEIR at 5-2. However, there is no analysis to support the DEIR's conclusion that they will not be oversized, or even if properly sized, will not result in secondary impacts.

In addition, the DEIR's analysis of growth-inducing impacts is also inadequate because it is based on an impermissible plan-to-plan analysis. The Revised document explains that the Project's accommodation of 264 new residents and up to 51,065 square feet of retail space would not induce growth because such growth is assumed in the Larkspur Specific Plan. Revised DEIR at 5-1 to 5-2. However, CEQA does not permit agencies to avoid analyzing environmental impacts by comparison to a planning document. EPIC, 131 Cal.App.3d at 356-57 (finding EIR's analysis of growth inducing and other impacts deficient where the document compared the project to the agency's existing general plan). V-42

Furthermore, the Revised DEIR's analysis creates an unfortunate precedent, that is itself an adverse environmental impact. As was the case in the first DEIR, the document finds that the Specific Plan is consistent with numerous general plan goals and policies regarding preserving the existing small-town character and scale of the downtown area, maintaining Larkspur's residential character and minimizing traffic impacts. However, despite these goals, the Specific Plan would permit a 36-room hotel on Parcel 1 and substantial residential development. These developments would create pressure to redevelop other parcels in Downtown Larkspur where there is currently a 35-foot height limit. For example, the historic Lark Theater would be particularly vulnerable to commercial redevelopment. By creating such a precedent, this Project could induce additional development that would not be allowed under a proper reading of the City's General Plan. V-43

E. The Revised DEIR Fails to Correct The Numerous Deficiencies in the Alternatives Analysis.

The requirement to set forth and analyze impacts of alternatives within an EIR is crucial to CEQA's mandate that avoidable environmental damage be substantially lessened or avoided wherever feasible. Public Resources Code § 21002; Guidelines §§ 15002(a)(3), 15021(a)(2), 15126.6. The Supreme Court has declared that "[t]he core of an EIR is the mitigation and alternatives sections." Citizens of Goleta Valley, 52 Cal.3d at 564.

The range of alternatives required to be analyzed in an EIR is governed by the "rule of reason." Id. at 565. The agency must analyze those alternatives which: "(1) offer substantial environmental advantages over the project proposal (§ 21002); and (2) may be 'feasibly accomplished in a successful manner' considering the economic environmental, social and technological factors involved." Id. at 556; §§ 21002, 21061.1. CEQA further requires an EIR to examine alternative locations that "avoid[ ] or substantially lessen[ ]" any significant environmental effects. Guidelines § 15126.6(f). If the discussion of alternatives does not adequately identify and analyze specific available alternative sites, or if it omits relevant information, the purposes of CEQA are subverted and the EIR is legally inadequate. San Joaquin Raptor/Wildlife Rescue Ctr. v. County of Stanislaus, 27 Cal.App.4th 713, 735-38 (1994); San Bernardino Valley Audubon Society, Inc. v. County of San Bernardino, 155 Cal.App.3d 738, 750-51 (1984). V-44

Despite CRG's detailed comments on the City's first DEIR, the Revised DEIR still fails to analyze any meaningful alternatives, must less a "range" of reasonable V-45

alternatives. First, the "Higher Density Alternative" is not a legitimate alternative in that it in no way avoids or substantially lessens the Project's significant impacts. See Pub. Res. Code § 21100(b)(4); Guidelines § 15126.6(a). The impacts of the Higher Density Alternative are in all respects greater than or equal to those of the Project. Revised DEIR Table 6-5. Because the Higher Density Alternative is no real alternative at all, the Revised DEIR therefore only analyzes one true alternative – the Lower Density Alternative – in addition to the mandated No Project Alternative. This abbreviated list of alternatives hardly constitutes the "range" of reasonable alternatives that CEQA requires. V-45 Cont'd V-46

Second, the Revised DEIR fails to discuss alternative sites for the project. A revised analysis must be completed that includes alternative sites for the residential and commercial portions of the project and describes the criteria for the site search and the methodology used to make the determination regarding appropriate site availability. For instance, the Revised DEIR should have considered a Project on the San Quentin Peninsula. Indeed, the City of Larkspur has participated in the San Quentin Reuse Committee, formed by the County of Marin. In 2003, the Reuse Committee adopted a Vision Plan that contemplates the construction of 2,100 to 3,200 housing units with approximately twenty-five percent of the housing being affordable. Moreover, the City of Larkspur's General Plan considers the "eventual reuse" of the San Quentin Peninsula to meet its housing goals. General Plan at 37. In addition, the Revised DEIR should have considered the 10-acre Sanitary District site near the recently approved Monahan Pacific project. V-47

Third, the document fails to describe a reasonable list of objectives and fails to accurately describe the alternatives in terms of their ability to attain the objectives. For instance, the Revised DEIR dismisses the Lower Density Alternative because it "would be less effective in helping the City to meet its regional fair-share housing obligation." Revised DEIR at 6-9. However, the document fails to explain what the City's fair-share housing obligations are, and fails to include these housing goals as an objective of the Project. The DEIR must be revised to include the project objectives and a thorough analysis of the consistency of each alternative with the objectives. V-48

Fourth, the analysis of consistency with the General Plan and other planning documents is inadequate. The analysis finds the project and each alternative to be identical in their consistency with applicable planning documents. DEIR Table 6-5. That conclusion ignores the fact that the Higher Density Alternative permits a total of 105 residential units on Parcel 7, considerably more that the 84 permitted under the current "Low Density" general plan designation. Revised DEIR 4.1-3, 6-15. Similarly, the V-49

analysis fails to examine the consistency of the Higher Density Alternative with the many goals and policies related to maintaining small-town character and reducing traffic impacts. It is erroneous, and entirely unhelpful to decisionmakers and the public, to suggest that the Higher Density Alternative and Lower Density Alternative have the same level of consistency with these goals and policies of the General Plan. In fact, an accurate assessment of General Plan and Downtown Specific Plan consistency of each alternative would find that the Lower Density Alternative is most consistent with these policies, given its smaller size and reduced traffic impacts, and that the Higher Density Alternative and the proposed Project are plainly inconsistent. The fact that the Alternatives Analysis completely glossed over this critical distinction reenforces the conclusion to be drawn from the Revised DEIR's Land Use section: the DEIR does not provide a serious, adequate, and informative analysis of consistency with the general plan and other planning documents. V-50 V-51

Fifth, the Revised DEIR still fails to include adequate information to allow comparison of the Project alternatives to each other. The CEQA Guidelines suggest a "matrix displaying the major characteristics and significant environmental effects of each alternative." Guidelines § 15126.6(d). Table 6-5, while it purports to compare the significant impacts under each alternative, fails to display the major characteristics of each alternative. For instance, the matrix states that the Lower Density Alternative would have "similar" air quality impacts to the Proposed Project. Id. at 6-25. This shorthand description ignores the fact that the Lower Density Alternative would generate 121 fewer vehicle trips, and result in the construction of 47 fewer residential units than the Proposed Project. As a result, the Lower Density Alternative would generate less car exhaust and less woodsmoke emissions. None of these comparative impacts are presented in Table 6-5. Similarly, as discussed above, the matrix erroneously states that land use and planning impacts of the Specific Plan are "similar" under the Higher Density and Lower Density Alternatives, ignoring the Lower Density Alternative's consistency with the General Plan and Downtown Specific Plan goals. V-52

Finally, the Revised DEIR's Lower Density Alternative was clearly set up as a straw man, poised to be eliminated by the City's regional housing needs goals. The City should have considered an alternative that would both lessen the environmental impacts of the project and achieve the regional housing needs. Specifically, CRG has proposed the following alternative at numerous meetings, as well as in its last comment letter: V-53 V-54

- A 15- to 20-room hotel on Parcel 1. The project's 30- to 36-room hotel would require a very large building as compared to surrounding uses. The 25-room Mill Valley Inn on Throckmorton, for example, has a significant visual impact from the street, even though it is visible from only two sides. In contrast, a hotel on Parcel 1 would be visible from all four sides, so could be expected to have an even greater visual impact.[3] A 15- to 20-room hotel on Parcel 1 would be consistent with the many provisions of the General Plan and Downtown Specific Plan regarding "human scale" development and maintaining Larkspur's small town character, as well as provisions regarding limiting traffic impacts. V-54 Cont'd

- A reduced density of residential development on Parcel 7, including a total of 65 mixed affordable and market rate homes. This alternative would have the environmental benefit of limiting traffic impacts and would be consistent with General Plan and Downtown Specific Plan goals and policies regarding minimizing traffic impacts in the downtown area. Furthermore, it would include sufficient housing to meet the City's regional housing goals. V-55

The Revised DEIR's alternatives analysis must be completely revised to include sufficient information and analysis to allow a meaningful comparison of alternatives and to compare the alternatives against project objectives, and should respond to public input by including an alternative along the lines proposed by CRG. Further, the analysis must include an accurate discussion of General Plan consistency of each alternative, particularly in light of revised traffic and visual impacts analyses. V-56

F. The Revised DEIR Must Again Be Revised and Recirculated.

Given the foregoing deficiencies, the Revised DEIR must again be revised and recirculated. The current Revised DEIR cannot properly form the basis of a final EIR. Because significant new information must be added to the Revised DEIR in order to comply with CEQA, the Re-Revised DEIR must be circulated for public review and comment before it can serve as the basis for a final EIR. See Guidelines § 15088.5 (describing the conditions for mandatory recirculation, which include the identification of new significant impacts, a substantial increase in the severity of identified significant V-57

[3] Notably, the visual impact of the proposed hotel was not specifically addressed in the visual impacts analysis, rendering that analysis inadequate under CEQA.

impacts, and the mitigation measures that could reduce impacts below a level of significance). V-57 Cont'd

III. THE SPECIFIC PLAN FAILS TO CONTAIN THE STATUTORILY MANDATED COMPONENTS.

The Central Larkspur Specific Plan proposes a substantial infusion of infrastructure to support the proposed residential, hotel and retail development. State law requires that specific plans include a detailed description of the land uses within the project site, the infrastructure needed to support these uses, the standards and criteria that will govern future development, and the financing and other implementation plans necessary to carry out the proposed development. See Gov't Code § 65451(a). The Specific Plan does not comply with this requirement in that it does not include sufficient information on proposed infrastructure improvements.

With respect to infrastructure, the Specific Plan must include, "in detail":

> The proposed distribution, location, and extent and intensity of major components of public and private transportation, sewage, water, drainage, solid waste disposal, energy, and other essential facilities proposed to be located within the area covered by the plan and needed to support the land uses described in the plan.

V-58

Gov't Code § 65451(a)(2). The Specific Plan's discussion of infrastructure should have identified "potential constraints resulting from the effect new development may have on schools, roads, sewage systems, water supplies, energy consumption and other public services and facilities." California Office of Planning and Research, Planner's Guide to Specific Plans, p. 8 (2001). The Central Larkspur Specific Plan violates the express provisions of this statute because it does not contain any information, let alone any "detailed" information, on public transportation and energy consumption.

Furthermore, the Specific Plan does not contain any information regarding existing capacity of public schools. Instead, the Plan merely states which schools are within the City's attendance boundaries. Specific Plan at 6-5 to 6-6. Had the Specific Plan included this information, it also would have disclosed that all of the schools within the Project attendance boundaries are either currently overcrowded or are projected to become overcrowded even without construction of the proposed Project's 85 residential

units. See Schools Report at 6 ("The District's schools are not large enough to house the enrollments that we expect during the coming years."). Because the Specific Plan does not explain how the school system will be increased to accommodate these new students, its discussion falls woefully short of the statutory requirement that the infrastructure be described "in detail." In sum, the Central Larkspur Specific Plan is legally inadequate. V-58 Cont'd

IV. THE PROJECT IS INCONSISTENT WITH THE GENERAL PLAN AND DOWNTOWN SPECIFIC PLAN.

The General Plan is the "constitution for all future developments," to which all local land use decisions must conform. Families Unafraid to Uphold Rural El Dorado County v. Bd. of Supervisors, 62 Cal.App.4th 1332, 1336 (1998). This "constitution" for Larkspur includes both the General Plan and Downtown Specific Plan, both of which establish that quality of life, including pedestrian and bicycle safety, are more important than traffic mobility. Because consistency with the General Plan is "the linchpin of California's land use and development laws," id., the instant Project must be set aside if it "frustrate[s] the General Plan's goals and policies." Napa Citizens for Honest Gov't v. Napa County, 91 Cal.App.4th 342, 379 (2001); see id. at 378 (to be consistent with the general plan, a project must, "considering all its aspects, further the objectives and policies of the general plan and not obstruct their attainment"). V-59

The Revised DEIR proposes a traffic signal at King Street/Magnolia Avenue to mitigate the significant traffic impacts that would result from Project implementation. However, the proposed King/Magnolia traffic signal is inconsistent with traffic and circulation policies set forth in the City's General Plan, as well as its Downtown Larkspur Specific Plan. For example, General Plan Policy n provides:

> Do not make any capacity improvements to Magnolia Avenue that would encourage additional through traffic.

V-60

General Plan at 84. Indeed, the City has already considered and rejected, for pedestrian safety reasons, installing a traffic signal at King and Magnolia. See id. at 74 (referring to the Magnolia and King intersection and stating, "the City Council has determined to keep the all-way stops to control the speed and flow of traffic on Magnolia Avenue, and to make it safer for pedestrians to cross").

The Downtown Specific Plan echos the General Plan policy against signalization at the King/Magnolia intersection, noting that "quality of life" goals "are to

be regarded as more important than mobility of traffic." Downtown Larkspur Specific Plan at 125. Accordingly, the Downtown Specific Plan explains that:

> Policy j [maintain and enhance the architectural character of Old Downtown] gives a higher priority to preserving the existing configuration of streets and buildings in the Downtown than to moving traffic through the area. This policy approach has already had clear implications for the Downtown, where the City Council has elected to make the King/Magnolia intersection a four-way stop to ensure pedestrian safety, despite the fact that this impedes traffic somewhat. Additionally, Policy n states that there should be no improvements to Magnolia Avenue that would encourage additional through traffic.

V-60 Cont'd

Id. (emphasis added).

Thus, the Revised DEIR's proposal to place a traffic signal at the King/Magnolia intersection (Mitigation 4.7-3) to mitigate the Project's significant traffic impacts is unlawful because it is plainly inconsistent with the General Plan and Downtown Specific Plan. See Napa Citizens, 91 Cal.App.4th at 378-79. Indeed, as explained in the Brohard Report, "such a dramatic increase in capacity and improvement in intersection operations would likely draw other motorists from parallel routes to Magnolia Avenue, significantly increasing traffic volumes through the City of Larkspur on Magnolia Avenue." Brohard Report at 8. As discussed above, the City has also utterly failed to consider the considerable safety, air quality, noise and other related impacts that would be created by the implementation of this unlawful mitigation measure. V-61

Accordingly, the document fails to include feasible mitigation for the Project's considerable traffic impacts. Indeed, the City's proposal to add a traffic signal at the intersection of King Street/Magnolia Avenue would require amendments to both the General Plan and Specific Plan. Because the City has not taken the necessary steps to mitigate the traffic increases that will result from the Project, there is no substantial evidence to support the Revised DEIR's conclusion that the City has mitigated traffic impacts to a less-than-significant level. V-62

V. CONCLUSION

For the foregoing reasons, CRG urges the City not to consider whether to approve the Project until a second Revised Draft EIR is prepared that fully complies with V-63

CEQA and the CEQA Guidelines, and the Specific Plan is revised to comply with the state statutory requirements. Until these steps are taken, the Project should not be pushed forward. Furthermore, because the Project's traffic mitigation is plainly inconsistent with the City's mandate that it place safety and quality of life concerns over traffic mobility, the City cannot approve this Project without creating unlawful inconsistencies with its General Plan and Downtown Specific Plan. V-63 Cont'd

Very truly yours,

SHUTE, MIHALY & WEINBERGER LLP

ROBERT S. PERLMUTTER

CATHERINE C. ENGBERG

RSP/CCE:kc
Attachments
[P:\LARK\Mat1\cce005 (Final Comment Letter re Larkspur's Revised DEIR).wpd]

EXHIBIT 1

Tom Brohard and Assoc

February 6, 2004

Mr. Robert Perlmutter, Attorney At Law
Shute, Mihaly & Weinberger LLP
396 Hayes Street
San Francisco, California 94102

SUBJECT: Central Larkspur Specific Plan Revised Draft Environmental Impact Report - Traffic Comments

Dear Mr. Perlmutter:

As requested, I have reviewed the November 14, 2003 Revised Draft Environmental Impact Report (Revised Draft EIR) prepared by EDAW for the Central Larkspur Specific Plan in the City of Larkspur. Appendices F-1 and F-2 to the Revised Draft EIR containing level of service (LOS) definitions and capacity calculations prepared by Wilbur Smith Associates have also been reviewed.

As detailed below, while the November 2003 Revised Draft EIR responds to a few of the traffic issues raised in my August 23, 2002 report regarding numerous deficiencies in the June 2002 Draft EIR for the Central Larkspur Specific Plan, many critical traffic issues have not been adequately addressed. Additionally, other significant errors have been made in the traffic analysis regarding trip generation and intersection capacity calculations. Until the concerns in the enclosed copy of our previous report and in this letter are adequately addressed, we disagree with the conclusion in the Revised Draft EIR that the Specific Plan's traffic impacts can be mitigated to have a less than significant effect on the environment. Indeed, as detailed below, the available evidence indicates that the project will have significant adverse impacts that have neither been disclosed nor analyzed in the Revised Draft EIR. V-64

My review of the November 2003 Revised Draft EIR for the Central Larkspur Specific Plan disclosed the following traffic issues and concerns:

1) Reasonable Worst Case Traffic Conditions Have Not Been Evaluated – Table 2-7 of the Revised Draft EIR presents the Theoretical Maximum Intensity in Development Subareas of the Specific Plan. Subarea 1 is shown as containing 36 hotel rooms and 58,100 square feet of retail space. Page 2-23 states, "This is the theoretical development scenario that is considered the 'project' for the purposes of analysis in this Revised Draft EIR." V-65

   Table 4.7-6 in the Traffic and Circulation Section of the Revised Draft EIR summarizes the new land use in each of the subareas in the Specific Plan, with the quantities then used in Table 4.7-7 to calculate daily and peak hour trips for each of the land uses. In both Tables 4.7-6 and 4.7-7, Subarea 1 includes 36 hotel rooms and only 46,565 square feet of retail space, 11,535

square feet less than the theoretical maximum intensity for "the project." This error understates daily and peak hour trips to be generated by the Specific Plan, resulting in undisclosed traffic impacts and incomplete mitigation. V-65 Cont'd

2) Low Traffic Volumes Used As Baseline – Page 4.7-5 of the Revised Draft EIR states that traffic volumes on roadways in the area have decreased significantly from 1999 to 2003. Table 4.7-1 indicates daily volumes have decreased over the last four years on Magnolia Avenue through the downtown area of the City of Larkspur by 22 percent on weekdays. During the same time, Table 4.7-1 shows traffic volumes on Doherty Drive increased by 4 percent on weekdays. Page 4.7-6 of the Revised Draft EIR states "The overall decrease in daily vehicle traffic is most likely attributed to overall economic conditions which have slowed over the past few years." This statement is erroneous, as traffic has not decreased as discussed below.

The broad generalization regarding the economy offered in the Revised Draft EIR does not adequately explain the claimed significant reduction in traffic on Magnolia Avenue while Doherty Drive volumes have increased over the same four year period. If the slow economy were solely responsible, then traffic volumes would have also fallen by over 20 percent on Doherty Drive. However, as reported in Table 4.7-1, daily traffic volumes on Doherty Drive actually increased by 4 percent. V-66

Furthermore, based on information provided in the City's General Plan, traffic on Magnolia Avenue was approximately 12,000 average daily trips in 1988. The Revised Draft EIR states that traffic increased to 15,680 average daily trips in 1999, which represents a rate of approximately three percent per year. Following such an increase, it would be highly unusual to see traffic drop by 20 percent on Magnolia, to the level of 12,880 average daily trips in 2003 (Revised Draft EIR at 4.7-6). It is my professional opinion that "economic conditions" do not explain this highly unusual decline in traffic.

While copies of the actual traffic counts are typically included in the appendix to a traffic study for an environmental document, no such counts were included in the appendix for the Revised Draft EIR. Accordingly, copies of the machine counts taken on the two roadways during May 2003 as well as copies of the peak hour turning movement counts made in March 2003 at the 13 intersections studied must be provided as part of the public review process. It is particularly important that the City provide these traffic counts so that the public can review the conflicting 1999 and 2003 traffic data. V-67

The June 2002 Draft EIR Appendix included a spreadsheet comparing AM and PM peak turning movement counts in September 1999 with April 2002. As pointed out in our August 23, 2002 report, there were significant increases in traffic flow between 1999 and 2002 in the opposite directions of the V-68

traditional commuter peak hour traffic flow at Magnolia Avenue and Doherty Drive. Northbound traffic increased by 22% in the AM peak hour from 569 to 697, nearly as high as southbound traffic. The total AM peak hour intersection volume increased from 1,750 to 1,924, up 9.9 percent in 2 ½ years. Southbound traffic increased by 30% in the PM peak hour from 583 to 760 vehicles to a level heavier than northbound traffic. The southbound left turn in the afternoon in 2002 was over 320 vehicles, nearly as high as recorded in the AM peak hour. In the PM peak hour, the total intersection volume increased from 2,127 to 2,159, up 1.5 percent in 2 ½ years.

From Exhibit 4.7-3, the March 2003 traffic counts at Magnolia Avenue and Doherty Drive show a total AM peak hour volume of 1,856, about 6 percent more than in 1999 and about 3 percent less than in 2002. Exhibit 4.7-3 indicates a total of 1,990 vehicles used this intersection in the PM peak hour in March 2003, about 6 percent less than 1999 and about 8 percent less than in 2002. These peak hour volumes do not support the findings in Table 4.7-1. Our review indicates the vast majority of the decrease in the intersection PM peak traffic hour occurred in the westbound traffic on Doherty Drive which was 705 vehicles in 1999, 662 vehicles in 2002, and 554 vehicles in 2003, a 21 percent decrease from 1999. This is directly contrary to the summary of daily traffic volumes presented in Table 4.7-1 which indicates daily volumes on Doherty Drive increased by 4 percent between 1999 and 2003. This significant inconsistency in the traffic data must be reviewed and properly explained. In light of the conflicting traffic volume data, conducting new daily and peak hour baseline traffic counts is the proper and accepted engineering approach to rectify these significant differences. V-68 Cont'd

Using incorrect, low traffic volumes in the Revised Draft EIR provides an inappropriate baseline from which the Specific Plan traffic impacts cannot be reasonably assessed and evaluated. New traffic counts must be conducted to provide a proper baseline. With the use of unrealistically low traffic volumes associated with the recent traffic counts, the errors in the baseline traffic volumes result in inaccuracies throughout the Revised Draft EIR.

3) Traffic Analysis Misused ITE Retail Trip Generation Data – The retail trip generation rates in the Revised Draft EIR from the Trip Generation, 6th Edition publication used daily and PM peak hour rates for a specialty retail center, Land Use Code 814. These rates do not apply to the type or size of retail uses being contemplated and cannot be used to accurately and properly forecast trips to and from the Central Larkspur Specific Plan as follows: V-69

a) Incorrect Retail Land Use Code – As shown on the enclosure, the introduction to Land Use Code 814 in Trip Generation, 6th Edition describes specialty retail centers as "generally small strip shopping centers that contain a variety of retail shops and specialize in quality

apparel, hard goods, and services such as real estate offices, dance studios, florists, and small restaurants." While some of these may occupy retail space in Subareas 1 and 2, the uses described in the Project Description in Chapter 2 are broader than these limited land uses. In this regard, the retail space in the Specific Plan should have been studied at the higher ITE trip rates for Land Use Code 820, Shopping Center, a broader retail category including stores, restaurants, and small offices. Land Use Code 820 is particularly appropriate given that an Albertsons supermarket is located adjacent to the project area. V-69 Cont'd

b) Limited Data for Specialty Retail Uses - The number of trip generation studies of specialty retail centers compiled by ITE is extremely limited in Land Use Code 814. In fact, the data includes only three studies of daily and PM peak hour traffic for this land use, and no data is presented for trip generation during the AM peak hour. As shown on the enclosures, the two data plots contain a bolded heading indicating "Caution – Use Carefully – Small Sample Size." In contrast, the enclosed data presented for shopping centers for Land Use Code 820 includes 299 studies of daily trips and 401 studies of PM peak hour trip rates at over 650 shopping centers including neighborhood centers from 1,700 square feet and up. The larger data base for shopping centers provides much more reliable traffic data than does the use of specialty retail centers. V-70

c) Size of Specialty Retail Not Within ITE Database - Page 15 of the enclosed User's Guide to Trip Generation, 6th Edition states "Caution should be used if extrapolating the data beyond the ranges provided, since no information has been supplied to document trip generation characteristics beyond the ranges given." However, the traffic analysis for the Specific Plan violated this principle by going beyond the range of data presented in their calculations of daily and PM peak hour trips.

The size of the three specialty retail centers shown in Land Use Code 814 ranged from 17,000 square feet up to a maximum size of 43,000 square feet for daily trips, and from 17,000 square feet to 215,000 square feet for PM peak hour rates. Table 4.7-7 incorrectly extrapolates the average trip rates for specialty retail centers "off the chart" to forecast daily trips to and from the 46,600 square feet of planned retail space in Subarea 1. Table 4.7-7 also incorrectly extrapolates the average trip rates for specialty retail centers "off the chart" to forecast both daily and PM peak hour trips to and from the 4,500 square feet of planned retail space in Subarea 2. V-71

The Trip Generation Handbook, An ITE Recommended Practice, was published in March 2001 to provide instruction and guidance in the proper use of data presented in Trip Generation, 6th Edition. Trip rates in this publication relate vehicle trips to different independent variables such as

per 1,000 square feet. Page 9 of the Trip Generation Handbook enclosed states that "The value of the independent variable for the study site must fall within the range of data included to use either the rate or equation. Otherwise local data are needed." Traffic forecasts in the Revised Draft EIR for the retail space incorrectly went beyond the range of data provided by ITE for the majority of their daily and PM peak hour calculations. To remedy this error, the City must either gather the "local data" specified by ITE (i.e., actual traffic count, from comparable local businesses) to determine accurate trip generation rates or use data presented by ITE for shopping centers in Land Use Code 820. V-71 Cont'd

d) AM Peak Used Shopping Center Rate – As indicated above, ITE did not publish AM peak hour trip rates for specialty retail centers. The 1.03 AM peak hour trip rate used in the Revised Draft EIR in Table 4.7-7 is actually the average rate for a shopping center published by ITE in Land Use Code 820 as shown on the enclosure. The traffic forecasts for the retail space in the Central Larkspur Specific Plan must be consistent, and cannot mix and match trip rates from ITE for the same retail space. V-72

e) June 2002 Draft EIR Used Shopping Center Rate – The June 2002 Draft EIR used the average ITE trip generation rates for shopping centers to forecast trips from the additional retail square footage in the Specific Plan. The use of the data from Land Use Code 820, Shopping Center, to analyze expansion of the commercial area in Central Larkspur was appropriate in June 2002 and remains appropriate today. V-73

f) Fitted Curve Must Be Used, Not Average Rate - As pointed out in our August 23, 2002 report, the fitted curve should have been used rather than the straight line relationship by using the average rate. For shopping centers less than 375,000 square feet, the fitted curve is higher than the straight line, indicating a higher than average trip generation rate per thousand square feet for smaller shopping centers. Similarly, these smaller shopping centers also generate more trips than the average during both peak hours. Using the ITE average rates as was done in the Revised Draft EIR underestimates both the daily and peak hour volumes. V-74

g) Shopping Center Fitted Curve Must Be Used – By using the faulty methodology described above, the Revised Draft EIR has grossly understated the number of daily and peak hour trips that will be generated by the retail space in Subareas 1 and 2. Correctly using the data presented by ITE in Land Use Code 820 and by applying the fitted curve rather than the average rate indicates the following: V-75

i) Subarea 1 will generate 4,170 daily, 101 AM, and 380 PM trips; not 1,898 daily, 48 AM, and 121 PM trips shown in Table 4.7-7.

ii) Subarea 2 will generate 930 daily, 25 AM, and 80 PM trips; not 184 daily, 5 AM, and 12 PM trips shown in Table 4.7-7.

Thus, the Revised Draft EIR's calculation of trips in Subarea 1 and 2 is understated by up to 400 percent. This document fails to account for or mitigate this significant traffic impact. V-75 Cont'd

4) Residential Trip Generation Rates Are Low – My August 23, 2002 report indicated average trip generation rates had been incorrectly used to forecast trips from all of the proposed residential development except for the large lot single family dwellings. The November 2003 Revised Draft EIR continues this same erroneous practice as in the prior document, failing to consider the higher number of trips that will be generated by the multi family and cottage residences in the Central Larkspur Specific Plan as follows:

a) Larger Homes Generate More Trips – The June 2002 Draft EIR and the November 2003 Revised Draft EIR both use a local study for trip generation for larger homes. In the trip generation study of these large homes nearby in the City of Corte Madera, peak hour trip activity was found to be 46% higher in the morning and 50% higher in the afternoon peak hours than the average ITE rates. Instead of using these higher local trip rates, the Revised Draft EIR used the average ITE rates for all but the large estates within the Specific Plan, thereby underestimating the trip generation of the other residential units. Given the affluent nature of the Larkspur community and the increase in trips associated with similar residential developments, the Revised Draft EIR should have used the local data from the City of Corte Madera to adjust the ITE rates for all residences within the Specific Plan. V-76

b) ITE Recommends Using Local Trip Data – As indicated in the enclosure from Trip Generation, 6th Edition, the average trip generation rates for single family detached housing in Land Use Code 210 "includes data from a wide variety of units with different sizes, price ranges, locations, and ages. Consequently, there is a wide variation in trips generated within this category. As expected, dwelling units that were larger in size, more expensive, or farther away from the central business district (CBD) had a higher rate of trip generation than those smaller in size, less expensive, or closer to the CBD." While the average daily trip rate for Land Use Code 210 is shown as 9.57, the range of rates is between 4 and 22 trips per day per single family home. V-77

While ITE's Trip Generation 6th Edition presents average trip generation rates collected throughout the United States since the 1960's, Pages 1 and 2 enclosed from the User's Guide encourage the use of "data that

have been collected at similar sites." Given the corresponding increase in trips commonly associated with similar residential developments and confirmed by the local trip generation study, the Revised Draft EIR should have used data from Corte Madera to adjust the ITE rates for all residences within the project. V-77 Cont'd

c) No Justification for Using 75% of Standard ITE Rates – Page 4.7-19 of the Revised Draft EIR arbitrarily assumes the proposed cottage homes and the multi-family units will generate only 75 percent of the standard ITE single family unit rate. Page 4.7-19 also states "... the expectation that work force households with more than one commuter would occupy much of the multi-family housing in the Specific Plan area..." While there are no ITE trip rates for cottage homes, the description provided on Page 2-15 of the Revised Draft EIR indicating cottage home unit sizes of up to 1,980 square feet does not justify or support the 25 percent trip reduction used in the study. Indeed, the size of these "cottage homes" is the same or larger than ordinary single-family residences. Similarly, multi-family households supported by more than one commuter would not justify a 25 percent trip reduction. These factors plus the affluent nature of the community together with the current minimal level of transit serving the area more than fully offset the 25 percent reduction that has been assumed. Using 75 percent of the average trip generation rates for the cottage and multi-family components understates the residential trip generation, resulting in undisclosed and unmitigated traffic impacts in the Revised Draft EIR. V-78

5) Intersection Capacity Calculations Contain Many Errors – Table 4.7-2 provides a summary of existing peak hour intersection level of service (LOS) based upon delay calculations included in Appendix F-2. Other tables throughout the Traffic and Circulation Section of the Revised Draft EIR provide similar summaries for other anticipated conditions at the 13 intersections studied. The following errors were noted during our review of these tables and the calculations: V-79

a) LOS Doesn't Match Definitions – Appendix A includes definitions of level of service related to forecast delay for signalized and stop controlled intersections. In many cases, the level of service in the table does not match the definition provided. As an example from Table 4.7-2, Doherty Drive/Piper Park is shown as LOS C in AM and PM peak hours with delay of 0.3 and 0.4 seconds respectively, but the Appendix definition indicates LOS A for delays less than 5 seconds. As another example from this table, Lucky Drive/Fifer Avenue is shown as LOS B and C in AM and PM peak hours with delay of 0.5 and 1.1 seconds respectively, but the Appendix definition indicates LOS A for delays less than 5 seconds. All calculations and tables must be reviewed and level of service errors corrected.

b) Calculations Contain Numerous Handwritten Corrections – Many of the level of service calculation sheets throughout Appendix F-2 contain handwritten corrections, circles, arrows, and changes to the calculation printouts from the various computer runs. Several of the intersection calculation computer printouts indicate "overflow" which would be LOS F, but this has been changed in handwriting to show LOS C. These handwritten changes cast considerable doubt as to the validity and the credibility of the traffic analysis in the Revised Draft EIR. V-80

6) Proposed Mitigation Measures Require Further Evaluation – Some of the recommended mitigation measures shown beginning on Page 4.7-42 of the Revised Draft EIR require parking prohibitions and will create other impacts, while other mitigation is not supported by technical studies as follows:

a) Impact 4.7-2 Mitigation – The impacts associated with the removal of eight parking spaces to install southbound and westbound left turn lanes at Magnolia Avenue and Ward Street have not been properly evaluated. The four parking spaces on Magnolia Avenue are heavily used according to the parking occupancy data shown in Table 4.7-4 and their removal will create impacts that have not been evaluated. Parking occupancy data is not shown for Ward Street in Table 4.7-17 and the impacts associated with the removal of these four parking spaces are therefore unknown. Further study of the loss of these parking spaces is required to identify and evaluate the impacts associated with their removal, and to provide necessary replacement parking. V-81

Installation of a new left turn lane on only one of the intersection legs and not on the opposite approach across the intersection as recommended in this mitigation will create serious traffic safety issues. As pointed out in my August 23, 2002 report, motorists traveling at even the 25 miles per hour speed limit will have extreme difficulty negotiating the 5 foot offset as they travel across the Magnolia Avenue/Ward Street intersection in any direction. These safety impacts have not been analyzed or disclosed in the Revised Draft EIR. V-82

b) Impact 4.7-3 Mitigation – According to Table 4.7-14 on Page 4.7-46, the installation of traffic signals replacing the four way Stop signs on Magnolia Avenue at King Street will significantly improve operating conditions at this intersection from LOS F to LOS C in the PM peak hour. As this dramatic improvement in the level of service suggests, there will be a significant enhancement in the capacity of Magnolia Avenue by implementation of this recommended mitigation to install traffic signals at King Street. Such a dramatic increase in capacity and improvement in intersection operations would likely draw other motorists from parallel routes to Magnolia Avenue, significantly increasing traffic volumes through the City of Larkspur on V-83

Magnolia Avenue. The environmental impacts, and particularly the safety impacts, associated with the likely increase in traffic on Magnolia Avenue caused by the installation of traffic signals at King Street must be determined and appropriately mitigated. V-83 Cont'd

c) Impact 4.7-9 Mitigation – While the heading indicates that a northbound left turn lane should be added at King Street and Magnolia Avenue, the text on Page 4.7-43 states two or three parking spaces will be removed "from the east curb face of Magnolia Avenue located directly south of East Ward Street." Based upon the conflicting and confusing information in the Revised Draft EIR, the location of the proposed left turn lane and the associated parking removals are unknown. The parking spaces on Magnolia Avenue are heavily used according to the parking occupancy data shown in Table 4.7-4 and their removal will create impacts that have not been evaluated. Further study of the loss of these parking spaces is required to identify and evaluate the impacts associated with their removal, and to provide necessary replacement parking. V-84

d) Impact 4.7-11 Mitigation – Reconfiguring the northbound approach to provide a dedicated right turn and through lane at Wornum Drive and Tamal Vista Boulevard is within the City of Corte Madera, and not under the jurisdiction of the City of Larkspur. Implementation of the required mitigation measure for the Specific Plan's traffic impacts is beyond the control and authority of the City of Larkspur, therefore potentially leaving this as a significant, unmitigated impact. In addition, Page 4.7-44 states, "Implementation of this mitigation measure may make it necessary to restrict left turn movements in and out of North Sandpiper Circle/Tamal Vista Boulevard intersection." No analysis has been provided as to the traffic impacts associated with the proposed left turn restrictions. Further study of this mitigation is required to identify and evaluate the associated impacts. V-85

e) Impact 4.7-12 Mitigation – Retiming the traffic signal at the intersection of Fifer Avenue and Tamal Vista Boulevard is within the City of Corte Madera, and not under the jurisdiction of the City of Larkspur. Implementation of the required mitigation measure for the Specific Plan's traffic impacts is beyond the control and authority of the City of Larkspur, therefore potentially leaving this as a significant, unmitigated impact. In addition, further study of the benefits to be gained by this measure, together with calculations supporting the recommended "split phasing," must be undertaken as this type of traffic signal operation generally results in worse intersection operating conditions at a degraded level of service, not improved conditions. V-86 V-87

f) Impact 4.7-13 Mitigation – Installing a traffic signal on Doherty Drive at Piper Park is recommended as mitigation and then retracted by indicating none of the traffic signal warrants will be satisfied at this intersection. No technical evaluation such as a traffic signal warrants sheet was included in the Technical Appendices. Such an evaluation must be conducted and made available for public review. Alternative measures to mitigate the Specific Plan's traffic impacts must be considered and developed rather than stating on Page 4.7-45 of the Revised Draft EIR that the impacts are "significant and unavoidable" if traffic signals are not installed. V-88

7) Appropriate and Timely Mitigation Needs to be Provided – While Page 4.7-41 suggests that the Specific Plan should pay traffic impact fees to the City, the Revised Draft EIR must be expanded to include the following:

- Cost estimates for mitigation measures at each impacted intersection and street segment including the "fair share" cost for the Specific Plan. V-89
- An implementation plan to make sure the improvements are in place when required to provide safe and efficient traffic flow.

8) Other Traffic Impacts Have Not Been Studied – Several topics have been omitted from or inadequately addressed in the Revised Draft EIR for the Central Larkspur Specific Plan, along with failure to address many of the comments in our August 23, 2002 report. Each must be addressed, reviewed, evaluated, and measures developed to mitigate these anticipated impacts:

a) Roadway Segment Analysis - No street segments have been studied in the Revised Draft EIR. Volume to capacity calculations for street segments and analysis are typically required by regional transportation agencies to ensure compliance with their congestion management programs. Appropriate mitigation must be developed to achieve the standard Level of Service at impacted street segments. V-90

b) Alternative Transportation Modes – Little analysis has been provided of the impacts of the Specific Plan on bicycle and pedestrian facilities. Many of the issues from our August 23, 2002 report remain unaddressed such as transitions of the proposed off-street bicycle path to on-street bicycle lanes on both sides of Doherty Drive. Impacts on children attending Hall Middle School and on Redwood High School have not been thoroughly and adequately studied. These issues must be addressed and added to the Revised Draft EIR. V-91

c) Public Transit – No attention has been given to identifying or quantifying impacts on transit services or toward providing recommendations to serve V-92

the Central Larkspur Specific Plan with transit. The transit impacts must be identified and mitigated in the Revised Draft EIR. V-92 Cont'd

In sum, the Revised Draft EIR for the Central Larkspur Specific Plan contains significant errors and omissions as identified above in this letter. Additionally, many of the comments made in my August 23, 2002 report regarding the Draft EIR remain unaddressed. As a result, the Revised Draft EIR has not accurately disclosed the Specific Plan's significant traffic and transportation impacts. The various issues and concerns outlined above must be carefully studied before reaching the conclusion this project has traffic impacts that can be reduced to insignificance. The Revised Draft EIR must be revised and recirculated for public review and comment. If you have questions regarding these comments, please call me at your convenience. V-93

Respectfully submitted,

Tom Brohard and Associates

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Enclosures

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Land Use: 814
Specialty Retail Center

Description

Specialty retail centers are generally small strip shopping centers that contain a variety of retail shops and specialize in quality apparel; hard goods; and services such as real estate offices, dance studios, florists, and small restaurants.

Additional Data

The sites were surveyed from the late 1970s to the mid-1990s in California, Georgia, and New York.

Source Numbers

100, 304, 305, 367, 423

Specialty Retail Center
(814)

Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Leasable Area
On a: Weekday

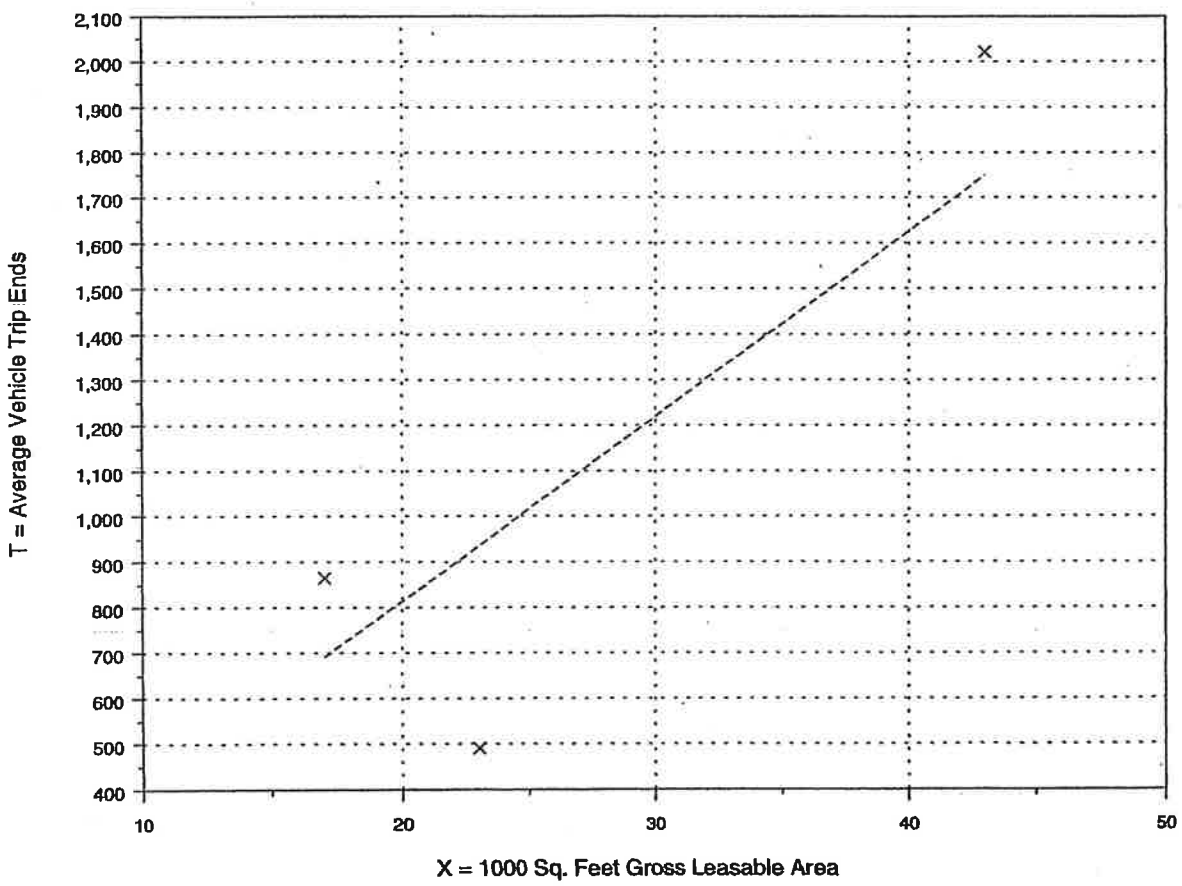
Number of Studies: 3
Average 1000 Sq. Feet GLA: 28
Directional Distribution: 50% entering, 50% exiting

Trip Generation per 1000 Sq. Feet Gross Leasable Area

Average Rate	Range of Rates	Standard Deviation
40.67	21.30 - 50.94	13.70

Data Plot and Equation

Caution - Use Carefully - Small Sample Size



× **Actual Data Points** ------ **Average Rate**

Fitted Curve Equation: Not given R^2 = ****

Specialty Retail Center
(814)

Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Leasable Area
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

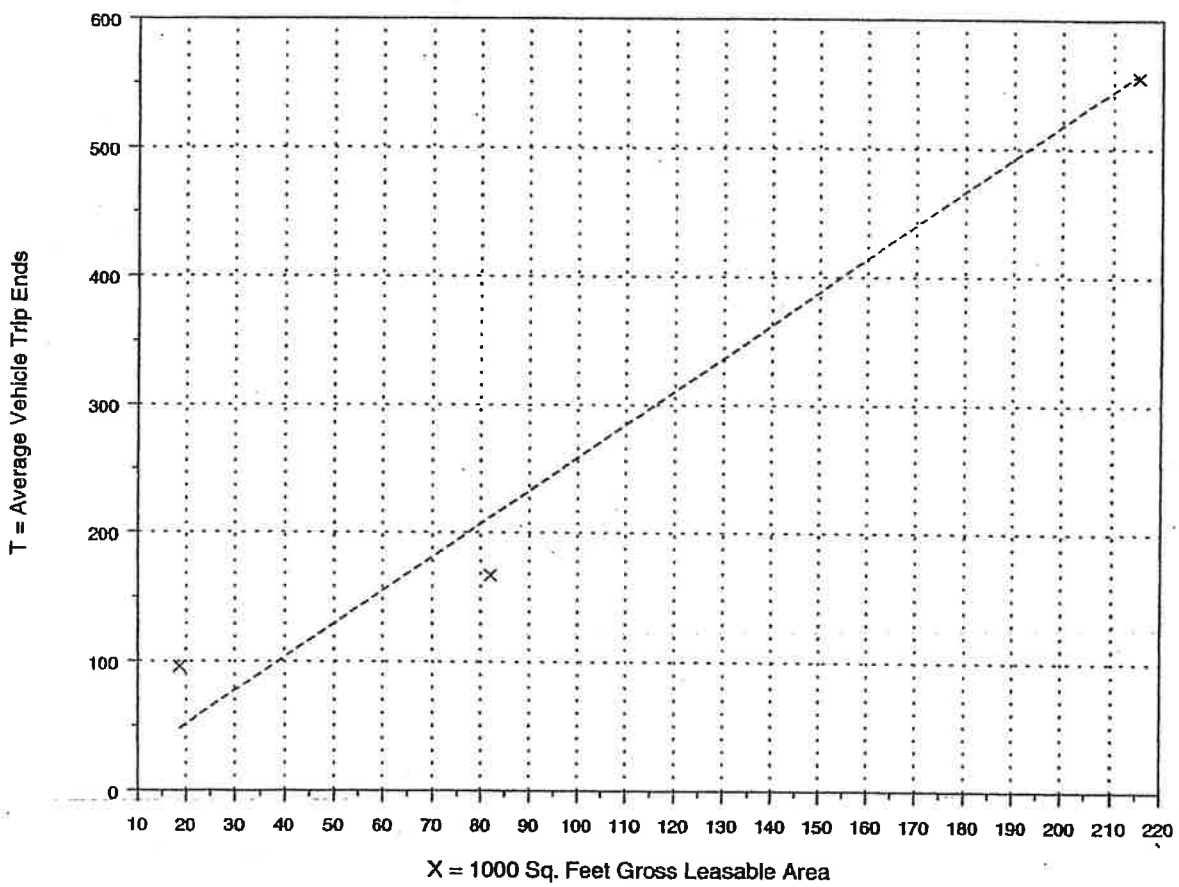
Number of Studies: 3
Average 1000 Sq. Feet GLA: 105
Directional Distribution: 43% entering, 57% exiting

Trip Generation per 1000 Sq. Feet Gross Leasable Area

Average Rate	Range of Rates	Standard Deviation
2.59	2.03 - 5.16	1.74

Data Plot and Equation

Caution - Use Carefully - Small Sample Size



× **Actual Data Points**

------ **Average Rate**

Fitted Curve Equation: Not given

R^2 = ****

Trip Generation, 6th Edition 1225 Institute of Transportation Engineers

Land Use: 820
Shopping Center

Description

A shopping center is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. A shopping center's composition is related to its market area in terms of size, location, and type of store. A shopping center also provides on-site parking facilities sufficient to serve its own parking demands.

Over 650 shopping centers including neighborhood centers, community centers, regional centers, and super regional centers were surveyed for this land use. Some of these centers contained non-merchandising facilities, such as office buildings, movie theaters, restaurants, post offices, banks, health clubs, and recreational facilities (e.g., ice skating rinks or indoor miniature golf courses). The centers ranged in size from 1,700 to 2,200,000 square feet of gross leasable area (GLA). The centers that were studied are located in suburban areas throughout the United States and therefore represent average U.S. suburban conditions.

Many shopping centers, in addition to the integrated unit of shops in one building or enclosed around a mall, include outparcels (peripheral buildings or pads located on the perimeter of the center adjacent to the streets and major access points). These buildings are typically drive-in banks, retail stores, restaurants, or small offices. Although the data herein do not indicate which of the centers studied included peripheral buildings, it can be assumed that some of the data show their effect.

The vehicle trips generated at a shopping center are based upon the GLA of the center. In cases of smaller centers without an enclosed mall or peripheral buildings, the GLA could be the same as the gross floor area of the building.

Separate equations have been developed for shopping centers during the Christmas shopping season. Plots are included for the weekday peak hour of adjacent street traffic and the Saturday peak hour of the generator.

Information on hourly, monthly, and daily variation in shopping center traffic is shown in Tables 1, 2, 3, and 4. It should be noted, however, the information contained in these tables is based on a limited sample size. Therefore, caution should be exercised when applying the data. Also, some information provided in the tables may conflict with the results obtained by applying the average rate or regression equations. When this occurs, it is suggested that the results from the average rate or regression equations be used as they are based on a larger number of studies.

Shopping Center
(820)

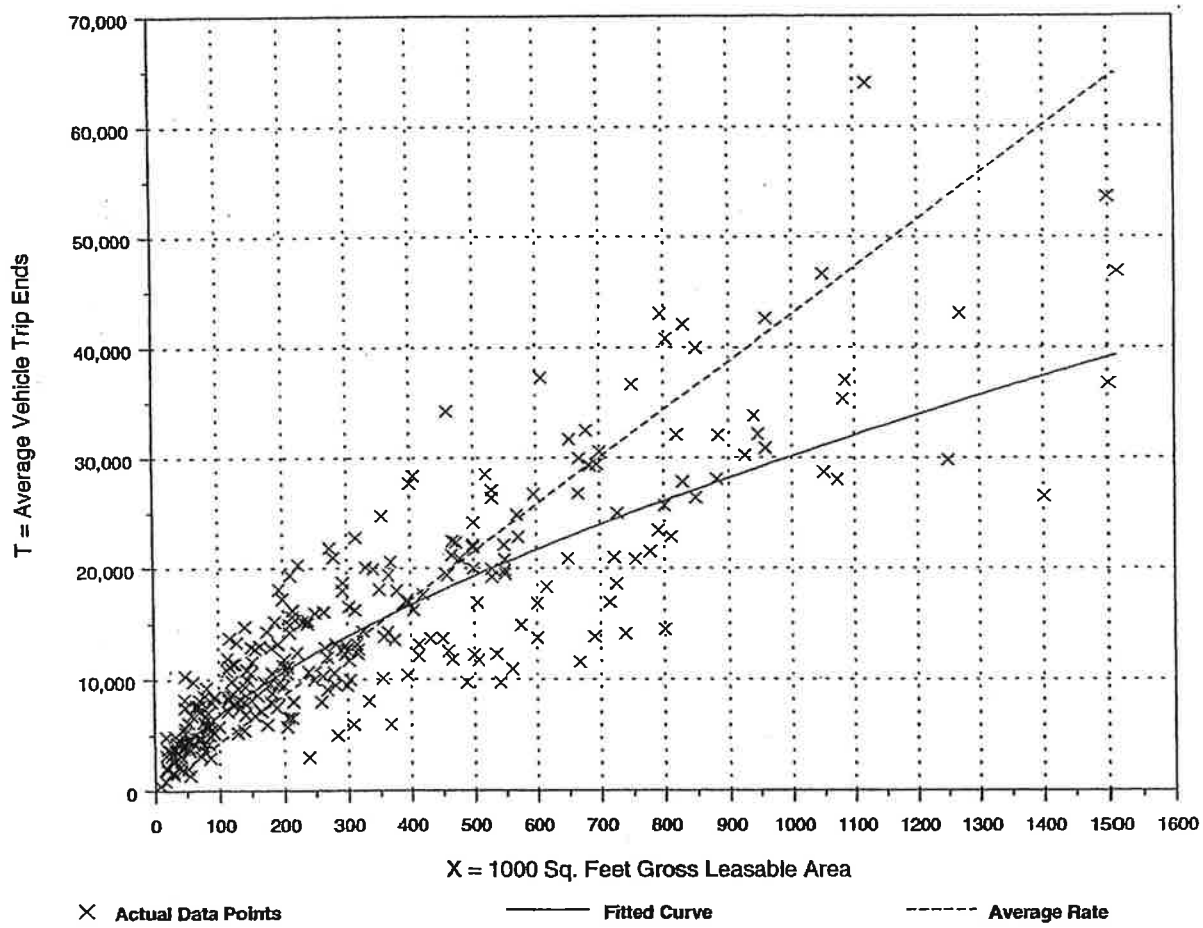
Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Leasable Area
On a: Weekday

Number of Studies: 299
Average 1000 Sq. Feet GLA: 331
Directional Distribution: 50% entering, 50% exiting

Trip Generation per 1000 Sq. Feet Gross Leasable Area

Average Rate	Range of Rates	Standard Deviation
42.92	12.50 - 270.89	21.39

Data Plot and Equation



Fitted Curve Equation: $Ln(T) = 0.643\ Ln(X) + 5.866$ **$R^2 = 0.78$**

Shopping Center
(820)

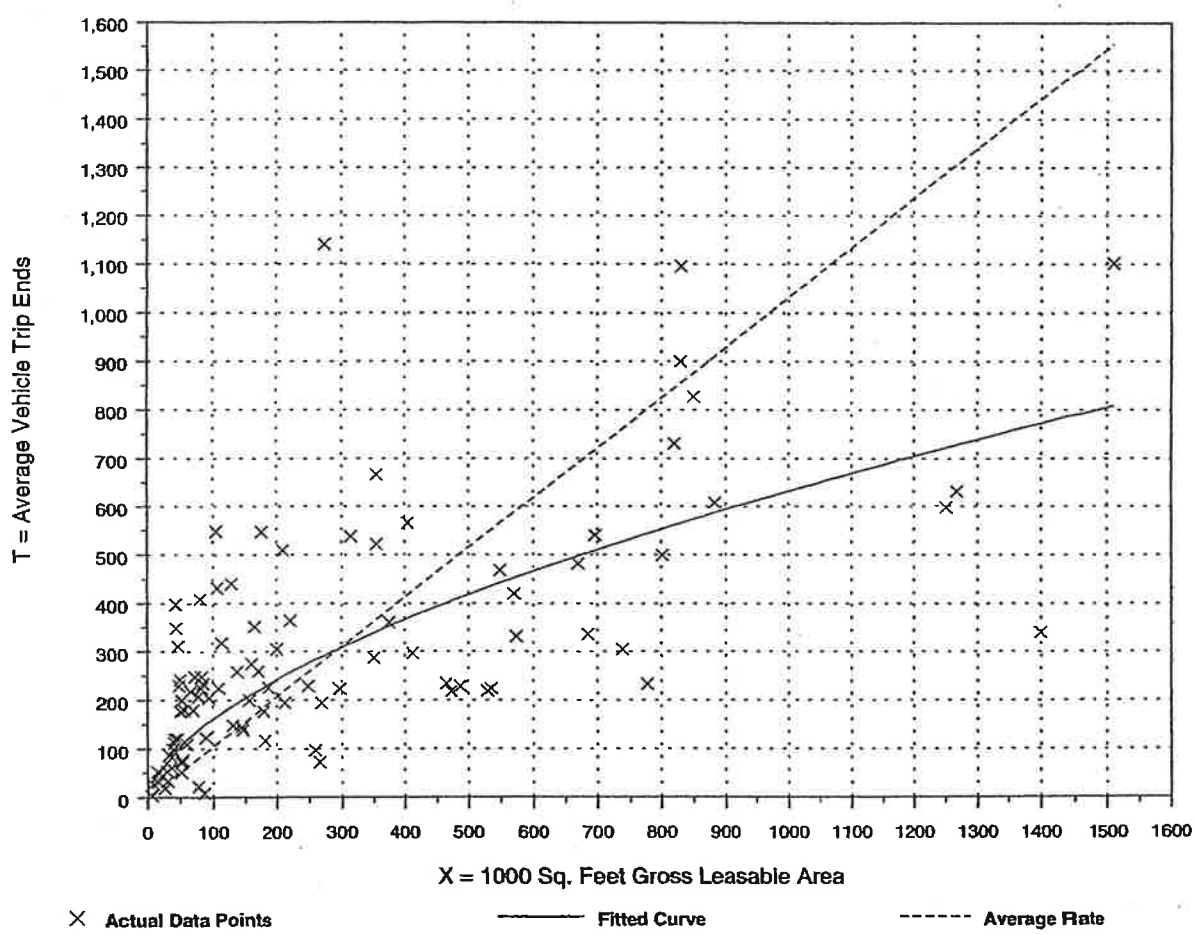
Average Vehicle Trip Ends vs: **1000 Sq. Feet Gross Leasable Area**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Number of Studies: 96
Average 1000 Sq. Feet GLA: 292
Directional Distribution: 61% entering, 39% exiting

Trip Generation per 1000 Sq. Feet Gross Leasable Area

Average Rate	Range of Rates	Standard Deviation
1.03	0.10 - 9.05	1.40

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.596 Ln(X) + 2.329 $R^2 = 0.51$

Shopping Center
(820)

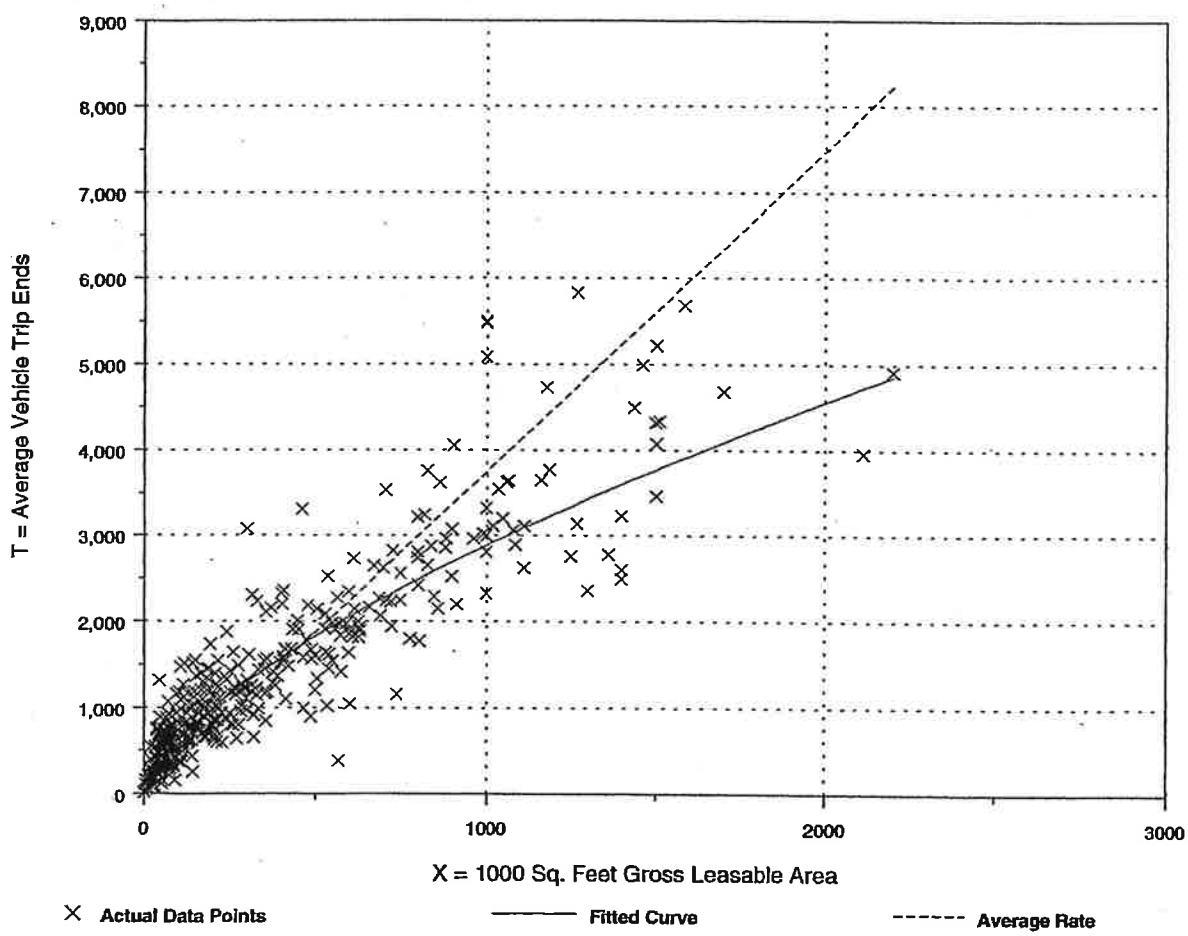
Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Leasable Area
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Number of Studies: 401
Average 1000 Sq. Feet GLA: 383
Directional Distribution: 48% entering, 52% exiting

Trip Generation per 1000 Sq. Feet Gross Leasable Area

Average Rate	Range of Rates	Standard Deviation
3.74	0.68 - 29.27	2.73

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.660 Ln(X) + 3.403 $R^2 = 0.81$

Limitations of the Data Plots

The plots presented in *Trip Generation* cover only the range of independent variables for which data are available. Caution should be used if extrapolating the data beyond the ranges provided, since no information has been supplied to document trip generation characteristics beyond the given ranges.

It should also be noted that in some cases, because of the limited sample size and variation in the data received, the projected trip generation estimate for the peak hour of the adjacent street traffic exceeds the trip generation estimate for the peak hour of the generator. By definition, this is impossible. In these isolated cases, knowledge of the project site and engineering judgment should be used to select the appropriate trip generation approximation.

3.3 Guiding Principles

The recommended approach for estimating trip generation for a proposed development is based on the following principles.

When the *Trip Generation* data plot contains more than 20 data points and a regression curve and equation are provided, use of the regression equation is recommended.

A regression equation with an R^2 of at least 0.75 is preferred because it indicates the desired level of correlation between the trips generated by a site and the value measured for an independent variable.

For the same reason, a weighted average rate is preferred when the standard deviation is less than or equal to 110 percent of the weighted average rate.

The value of the independent variable for the study site must fall within the range of data included to use either the rate or equation. Otherwise local data are needed.

Supplemental local data are suggested when the data plot has less than six data points.

The number of trips determined by either the rate or the equation should fall within the cluster of data points (i.e., the range of trip values) found at the study site's independent variable value. Otherwise, additional local data are needed.

Use Regression Equation When:

- a regression equation is provided
- independent variable is within range of data and
- either the data plot has at least 20 points
- or $R^2 \geq 0.75$, equation falls within data cluster in plot, and standard deviation ≤ 110% of weighted average rate

Use Weighted Average Rate When:

- at least three data points
- independent variable is within range of data
- standard deviation ≤ 110% of weighted average rate
- $R^2 < 0.75$ or no equation provided
- weighted average rate falls within data cluster in plot

Collect Local Data When:

- study site is not compatible with ITE land use code definition
- only 1 or 2 data points, preferably when five or fewer data points
- independent variable does not fall within range of data
- neither weighted average rate line or fitted curve fall within data cluster at size of development

In order to put these principles into practice, two alternative approaches are available to the analyst. The highlighted box in this section presents a checklist for choosing between using the weighted average rate, using the regression equation, and collecting local data. A detailed step-by-step approach for estimating trip generation is presented in section 3.4 of this chapter.

3.4 Recommended Procedure for Estimating Trip Generation

A step-by-step procedure is shown below for determining how best to estimate trip generation using data contained in *Trip Generation*. The procedure is also outlined with simplified text in the flow chart in figure 3.1.

Step 1: Is the development under analysis consistent with the description of the land use code in *Trip Generation* and with the described or presumed characteristics of development sites for which data points are provided?

> If yes, proceed to step 2.
> If no, collect local data for the land use being analyzed and establish a local rate. Refer to chapter 4 for guidelines.

Caution: The analyst should exercise caution before trying to quantify the trip generation effects of isolated and minor changes in characteristics of a particular land use. *Trip Generation* data are compiled from a wide range of sources with a potentially high variability in site characteristics within the bounds of the land use code definition. *Trip Generation* does not provide information on the secondary characteristics of the surveyed sites and therefore any analysis of the

Land Use: 210
Single-Family Detached Housing

Description

Single-family detached housing includes all single-family detached homes on individual lots. A typical site surveyed is a suburban subdivision.

Additional Data

The peak hour of the generator typically coincides with the peak hour of the adjacent street traffic.

The sites were surveyed from the late 1960s to the mid-1990s throughout the United States and Canada.

The number of vehicles and the number of residents have a high correlation with average weekday vehicle trip ends. The use of these variables is limited, however, because the number of vehicles and residents is often difficult to obtain or predict. The number of dwelling units is generally used as the independent variable of choice because it is usually readily available, easy to project, and has a high correlation with average weekday vehicle trip ends.

This land use includes data from a wide variety of units with different sizes, price ranges, locations, and ages. Consequently, there is a wide variation in trips generated within this category. As expected, dwelling units that were larger in size, more expensive, or farther away from the central business district (CBD) had a higher rate of trip generation per unit than those smaller in size, less expensive, or closer to the CBD. Other factors, such as geographic location and type of adjacent and nearby development, may also have had an effect on the site trip generation.

Single-family detached units have the highest trip generation rate per dwelling unit of all residential uses, because they are the largest units in size and have more residents and more vehicles per unit than other residential land uses; they are generally located farther away from shopping centers, employment areas, and other trip attractors than are other residential land uses; and they generally have fewer alternate modes of transportation available, because they are typically not as concentrated as other residential land uses.

Source Numbers

1, 4, 5, 6, 7, 8, 11, 12, 13, 14, 16, 19, 20, 21, 26, 34, 35, 36, 38, 40, 71, 72, 84, 91, 98, 100, 105, 108, 110, 114, 117, 119, 157, 167, 177, 187, 192, 207, 211, 246, 275, 283, 293, 300, 319, 320, 357, 384, 435

Single-Family Detached Housing
(210)

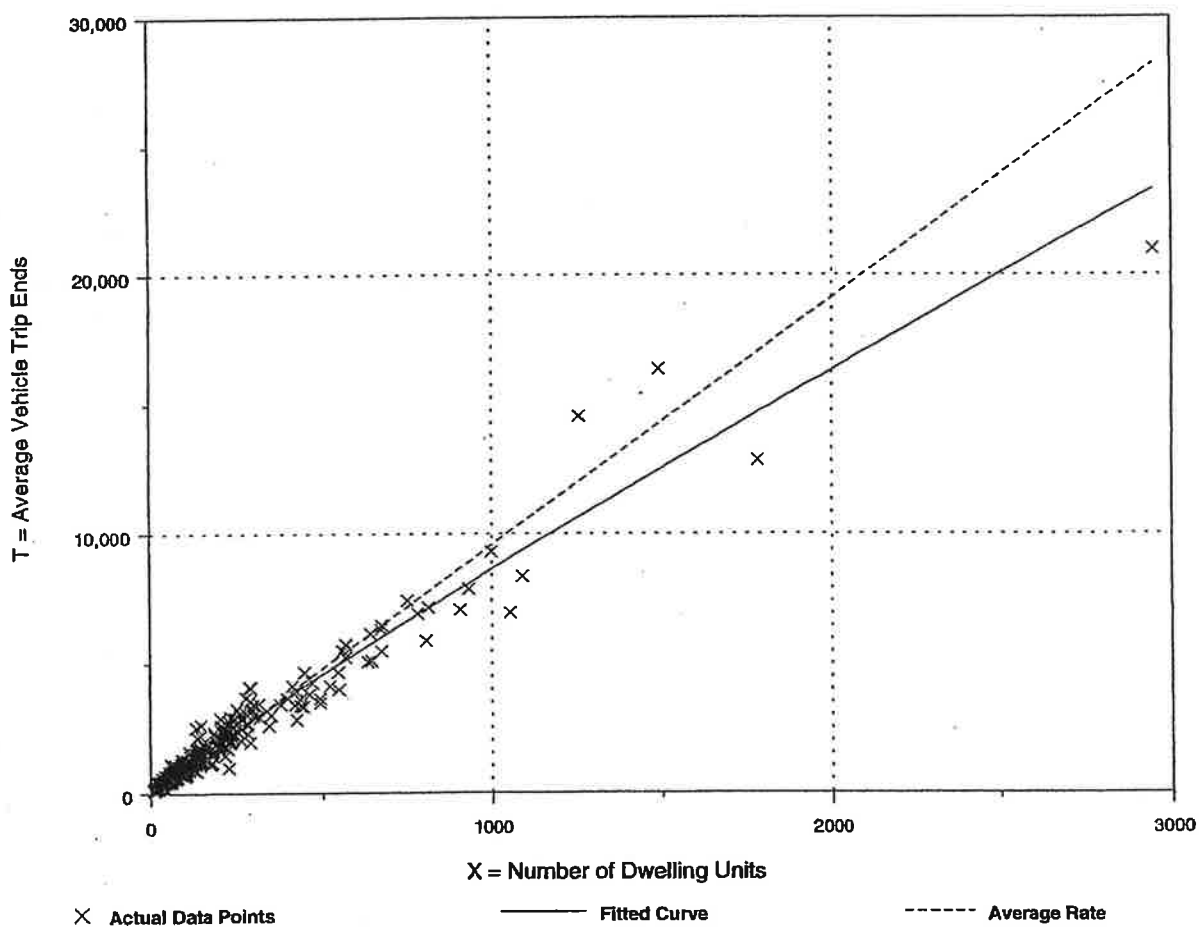
Average Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Number of Studies: 348
Avg. Number of Dwelling Units: 198
Directional Distribution: 50% entering, 50% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.57	4.31 - 21.85	3.69

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.920 Ln(X) + 2.707 $R^2 = 0.96$

Single-Family Detached Housing
(210)

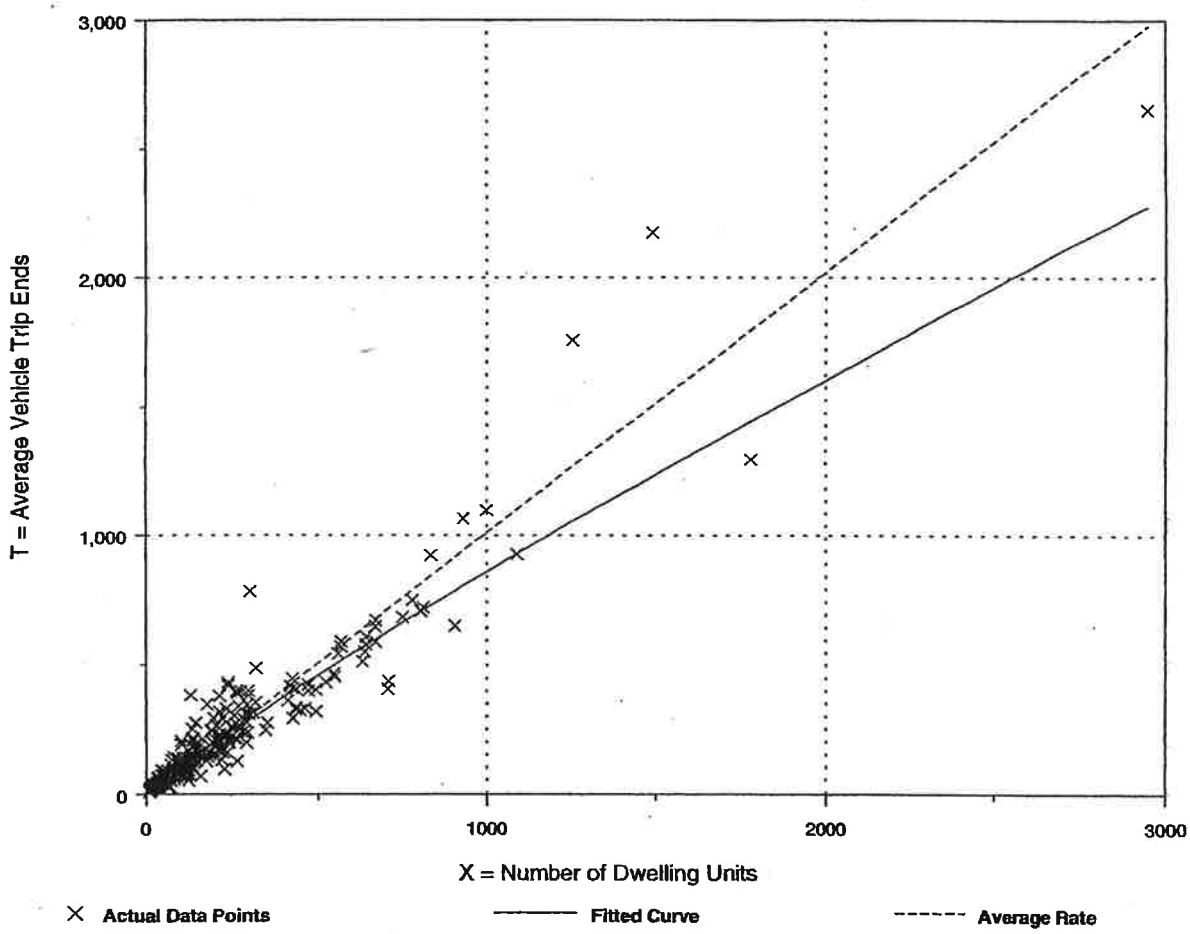
Average Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
O ; Hour Between 4 and 6 p.m.

Number of Studies: 294
Avg. Number of Dwelling Units: 216
Directional Distribution: 64% e ;ering, 36% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
1.01	0.42 - 2.98	1.05

ata Plot and Equation



Fitted Curve Equation: Ln(T) = 0.901 Ln(X) + 0.527 **R^2 = 0.91**

1 INTRODUCTION

Purpose

The purpose of this multivolume document is to house the trip generation data that have been submitted to ITE. This document represents the sixth full edition, and it incorporates data from the previous five editions and the supplementary document entitled *February 1995 Update to the Fifth Edition.* As additional trip generation data become available, they will be distributed through the periodic publication of updates.

Use of the Report

This document is intended for use in estimating the number of trips that may be generated by a specific land use. Trip generation rates and equations have been developed for an average weekday, Saturday, and Sunday; for the weekday morning and evening peak hours of the generator; and for the weekday morning and evening peak hours of the adjacent street traffic, i.e., between 7 A.M. and 9 A.M. and 4 P.M. and 6 P.M. In some cases limited data were available; thus, the statistics presented may not be truly representative of the trip generation characteristics of a particular land use. Further information on the cautions and limitations of the data contained in this report are presented in chapter 4, "Description of the Data Base."

About the Data

The average trip generation rates in this document represent weighted averages of studies collected throughout the United States and Canada since the 1960s. Data were primarily collected at suburban locations with little or no transit service, near-by pedestrian amenities, or transportation demand management (TDM) programs. At specific sites, the user may wish to modify trip generation rates presented in this document to reflect the presence of public transportation service, ridesharing or other TDM measures, enhanced pedestrian and bicycle trip-making opportunities, or other special characteristics of the site or surrounding area. When practical, the user is encouraged to supplement the data in this document

with local data that have been collected at similar sites. Additional collected data should be submitted to the Institute for inclusion in subsequent editions. Data collection forms are provided in appendix B of the *User's Guide.* Questions and comments regarding *Trip Generation* should be addressed to:

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Fax: +1 202/863-5486
ITE on the Web: http://www.ite.org

FINAL REPORT

CENTRAL LARKSPUR SPECIFIC PLAN
IN THE CITY OF LARKSPUR
IN MARIN COUNTY

DRAFT EIR
JUNE 2002

EVALUATION OF
TRAFFIC AND CIRCULATION ANALYSIS

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AUGUST 23, 2002

Central Larkspur Specific Plan Traffic Comments
August 23, 2002

I. Summary of Major Findings

The purpose of this report is to evaluate the traffic and circulation analysis performed in relation to the proposed Central Larkspur Specific Plan. Our review of documents for the proposed project included the Draft June 2001 Central Larkspur Specific Plan and the traffic portions of the June 2002 Draft Environmental Impact Report. Additionally, the April 1989 Larkspur General Plan Circulation Report, the March 1990 Draft Environmental Impact Report for the Larkspur General Plan, Chapter 4 (Circulation) of the December 1990 Larkspur General Plan 1990-2010, and various other memorandums, reports, and related documents were also reviewed as part of this evaluation.

Table 1-1 in the Draft EIR, the same as Table 3-1 in the Central Larkspur Specific Plan, illustrates many different permitted and conditionally permitted uses on each of the seven parcels covered by the Specific Plan. Possible land uses include residential, live/work, retail sales, business and professional services, hotel/inn, office, cultural/civic, and public parking. Based upon floor area ratios for the different parcels, Table 1-1 shows it would be possible to construct up to 126,000 square feet of floor space for commercial uses and between 86 and 106 residential units on the seven parcels. The Draft EIR's traffic study examines a project containing 18,300 square feet of retail, a 30 room hotel, and 105 residential units, a low density alternative, and a high density alternative of 20,900 square feet of retail, a 30 room hotel, and 155 residential units. As a program level EIR, the document should have addressed the traffic impacts associated with the maximum build out of Table 1-1, not a project that bears little resemblance to what could occur with approval of the Specific Plan.

As listed below, there are several unanswered inconsistencies between the Draft EIR's traffic study and other relevant documents. More importantly, the traffic study contained in the Draft EIR has numerous flaws and many errors, together with a number of omissions. As a result, the Draft EIR fails to properly and adequately identify the traffic impacts of the Central Larkspur Specific Plan. In turn, this leads to inadequate mitigation of the traffic impacts that can be expected if the Draft EIR were approved and related projects constructed.

The following summarizes the significant findings of our review of the documents for the Central Larkspur Specific Plan proposed in Larkspur in Marin County.

II. Omissions from the Draft EIR Traffic Study

The Draft June 2001 Central Larkspur Specific Plan identifies many alternatives and possible combinations of land uses on each of the seven parcels covered by the document. The Specific Plan, intended to be used to guide the development of these seven parcels, provides many recommendations for transportation and circulation improvements. Such recommendations are usually studied and confirmed in the EIR for a Specific Plan, but most have not been evaluated in this

Central Larkspur Specific Plan Traffic Comments
August 23, 2002

Draft EIR. The following traffic and circulation recommendations contained within the Specific Plan must be studied, evaluated, and added to the Draft EIR:

A. Page 29, 3. – A new traffic signal is recommended on Doherty Drive at Larkspur Plaza Drive/western project access but the need for these traffic signals has not been established. An evaluation of the guidelines (warrants) for traffic signal installation needs to be conducted and added to the Draft EIR.

B. Page 31, 4. – The possibility of a new traffic signal on Doherty Drive at Piper Park/eastern project access is suggested to be studied. An evaluation of the guidelines (warrants) for traffic signal installation needs to be conducted and added to the Draft EIR.

C. Page 31, 8. – The Specific Plan indicates the internal roadway system may contain an exit only connection to Ward Street to minimize left turns at Larkspur Plaza Drive and at the Magnolia Avenue Doherty Drive intersections. An evaluation of this recommendation and its likely negative impacts on the adjacent residential area to the south must be conducted. Additionally, a review of the sight distance at this access point, including visibility of pedestrians and bicyclists using the nearby trail and pathway, also needs to be conducted.

D. Page 32, 9. – A cross section for Doherty Drive is recommended that includes an off street bicycle path along the south side. The traffic study should address this recommendation including the difficulty of transitioning back to on street bike lanes at both ends of the path section as well as concerns previously expressed by the Marin County Bicycle Coalition about the 13' wide travel lanes.

E. Page 32, 10. – Changes to the Hall Middle School access are proposed with the intersection improvements at Doherty Drive and Larkspur Plaza Drive as illustrated in Figure 4.2. The offset intersection to be created with the racquet club driveway, together with the proximity to Doherty Drive and the lack of southbound left turn storage, needs to be addressed.

F. Page 32, 11. – The existing Doherty Drive bridge over Larkspur Creek just east of the eastern project access adversely impacts sight distance of motorists, pedestrians, and bicyclists. An evaluation of these conditions is needed, together with recommendations regarding the timing and financing of the proposed bridge reconstruction before development of Parcel 7.

G. Page 33, 12. – Alternatives to connect the bike paths proposed on the south side of Doherty Drive east of Larkspur Plaza Drive with the path on Magnolia Avenue north of Doherty Drive need study and evaluation.

H. Page 33, 13. – The recommendation to construct an 18' wide, one way frontage road along the south side of Doherty Drive across Parcel 7 needs to be evaluated and other alternatives considered. Generally, isolated one way streets are undesirable as many motorists, especially those with origins or destinations near each end, tend to violate the one way regulations.

I. Page 33, 14. – The adequacy of constructing 26' wide internal streets with parking on one side needs to be evaluated regarding traffic circulation and emergency vehicle access.

J. Page 36, 8. – With users of the existing downtown area already parking in the adjacent residential areas, the concept of shared parking needs to be carefully studied before allowing a 20% reduction in the required number of parking spaces for mixed use development.

III. Faulty Methodology

The Draft EIR employs faulty methodology in several areas of analysis including the use of outdated traffic counts taken in 1999 that do not represent today's patterns, and incorrect or clearly erroneous assumptions regarding the size of development on each of the seven parcels, residential trip generation values, commercial trip generation values, and overall trip distribution and assignment to roadways.

A. Outdated Traffic Counts – The Draft EIR relies on traffic counts taken in 1999 as the basis for the evaluation of the Specific Plan, with Table 8-1 providing a summary of peak hour traffic volumes at three of the 13 intersections studied. However, as indicated on the last page of Appendix C of the Draft EIR which provides more detailed traffic volume data, there have been significant increases in traffic flow between 1999 and 2002 in the opposite directions of the predominate peak hour traffic flow as follows:
   1. Magnolia Avenue and Doherty Drive – Northbound traffic has increased by 22% in the AM peak hour and it is now nearly as high as southbound traffic. Southbound traffic has increased by 30% in the PM peak hour, and it is now heavier than northbound traffic. The southbound left turn in the afternoon is over 320 vehicles, nearly as high as recorded in the AM peak hour.
   2. Doherty Drive and Riviera Circle – Westbound traffic has increased by 11% in the AM peak hour and eastbound traffic has increased by 28% in the PM peak hour.

Further review of the 1999 traffic counts in the PM peak hour at Magnolia Avenue and Doherty Drive also indicates a discrepancy with the PM peak hour data collected over five days at the same time. The two components of the southbound Magnolia Avenue traffic from the intersection at Doherty Drive, southbound through traffic of 366 plus westbound left turns of 164, total only 530 vehicles, much less than the average southbound traffic of 701 recorded over the five weekdays. The Draft EIR's use of the lower turning movement counts as the baseline and carrying these values through the traffic study is a significant flaw.

Traffic volumes on Magnolia Avenue and on Doherty Drive have each increased by about 30% in the 10 years between 1989 and 1999. Daily traffic volumes shown in Figure 3 of the Larkspur General Plan Circulation Report prepared in April 1989 indicated daily weekday volumes of 12,000 on Magnolia Avenue in the downtown area whereas Table 8-3 of the Draft EIR indicates 15,680 on weekdays and 12,940 on a Saturday in 1999. Weekday volumes on Doherty Drive in 1989 were recorded at 8,800 whereas Table 8-3 of the Draft EIR indicates 11,410 on weekdays and 8,990 on a Saturday in 1999. This growth in traffic volumes is significant with 1999 Saturday traffic volumes higher than the weekday volumes recorded in 1989.

On top of the 30% growth in traffic volumes between 1989 and 1999, there have been significant changes in traffic volumes recorded at Magnolia Avenue and Doherty Drive between 1999 and 2002. As a direct result, the delays experienced by the critical movements in the PM peak hour at this intersection and at others nearby have increased. With the traffic volume shifts in the center of the community at Magnolia Avenue and Doherty Drive, it is essential that the City gather new traffic count data after the scheduled completion of construction of the Redwood High School student parking lot in November to properly assess traffic impacts from the proposed development with current traffic volumes as a baseline. Otherwise, the City will be relying on baseline traffic volumes that are clearly erroneous and do not reflect acknowledged increases in traffic.

B. Incorrect Assumptions - The text on Page 8-26 does not accurately describe the uses contained in the three alternatives studied. It needs to be expanded to show the hotel use in each alternative as well as the community center in the low density alternative. The text should also be corrected to match the uses in Table 8-8. On top of this, Table 8-8, which provides a trip generation summary for three possible scenarios on four of the seven parcels, contains a number of mathematical errors (numbers in the table do not always add correctly both across and down.) Other mistakes and omissions in Table 8.8 include:

1. For the project alternative - A total of 75 rather than 85 residential units as well as the omission of 4,000 square feet of retail space on Parcel 7, and 20 ksf rather than 20 units for townhouse on Parcels 1, 4, and 6.
2. For the high density alternative - A total of 95 rather than 105 residential units as well as the omission of 4,000 square feet of retail space on Parcel 7, and 20.9 ksf rather than 25.3 ksf for retail on Parcels 1, 4, and 6.

C. Size of Development - As indicated previously, the traffic study has not addressed the range of possible development and intensification on each of the seven parcels in the Specific Plan area. As a result, the traffic impacts of the build out of the Specific Plan are not accurately or appropriately evaluated in the Draft EIR.

1. To properly forecast project traffic impacts, trip generation forecasts for each of the possible land uses on each of the seven parcels as shown in Table 1-1 should be prepared using the appropriate floor area ratios.
2. The impact of new developments on Parcels 2, 3, and 5, which has been totally omitted from the current analysis, together with intensification on other parcels, can then be properly assessed.
3. The traffic impacts of the net increase in developments on the various parcels up to the following maximum square footage amounts need to be evaluated:
   i. Parcel 1 – 50,040 square feet of commercial/mixed use.
   ii. Parcel 2 – 1,760 square feet of commercial/mixed use.
   iii. Parcel 3 – 15,680 square feet of cultural/civic use.
   iv. Parcel 4 – 4,500 square feet of additional retail use.
   v. Parcel 5 – 9,769 square feet of office/retail use.
   vi. Parcel 6 – 6,110 square feet of office/residential use.
   vii. Parcel 7 – 4,000 square feet of retail space, community serving space, residential units, and the one acre portion of the property set aside for the Niven family adjacent to Ward Street which could contain a retail nursery, 12,000 square feet of retail, 20,000 square feet of office, or 18 residential apartments.

D. Residential Trip Generation Values – Except for the large lot single family residential dwellings on a portion of Parcel 7, the Draft EIR traffic study erroneously used average or lower than average trip generation rates as published by the Institute of Transportation Engineers (ITE) to evaluate the other residential uses. While the ITE publication "Trip Generation" presents average trip generation rates collected throughout the United States since the 1960's, it encourages the use of "local data that have been collected at similar sites."

1. Given the affluent nature of the Larkspur community and the corresponding increase in trips commonly associated with similar residential developments, the Draft EIR should have used local data from comparable projects to adjust the ITE rates for all residences within the Project. For instance, in the trip generation study of the large homes in Corte Madera, peak hour trip activity was found to be 46% higher in the morning and 50% higher in the afternoon peak hours than the average ITE rates. Instead, the DEIR used the lower ITE average rates for all but the large estates within the project, thereby underestimating the trip generation of the other residential units. Accordingly, peak hour trip generation from the other residential uses in the Specific Plan area should be evaluated at higher than average ITE rates consistent with the actual rates at analogous local projects.
2. The traffic study arbitrarily assumed that the proposed cottage homes and the townhouse units would generate only 75% of the standard ITE single family unit rate. While there are no standard ITE trip rates for cottage homes, their description provided on Page 26 of the Specific Plan indicating cottage home unit sizes of up to 1,700 square feet on 5,100 square foot sites does not justify or support the 25% trip reduction used in the study.
3. It is highly questionable to assume that affordable workforce housing would generate fewer vehicle trips than the ITE standard. Residences in this category occupied by teachers, police officers, and fire fighters, usually have two working spouses, potential second jobs, and may also have older teenagers with cars as well. No reductions from the ITE standards should be applied to workforce units in this study.

E. Commercial Trip Generation Values – The Draft EIR traffic study mistakenly used the average ITE trip generation rates for all shopping centers of all sizes up to 1,600,000 square feet to forecast trips from the additional retail square footage. As is shown on Attachment 1 from the ITE publication "Trip Generation", the relationship between shopping center size and square footage is a fitted curve, not a straight line relationship. For shopping centers less than 375,000, the fitted curve is higher than the straight line, indicating a higher than average trip generation rate per thousand square feet for smaller shopping centers. Similarly, these smaller shopping centers also generate more trips than the average during both peak hours (Attachment 2 for the AM peak hour and Attachment 3 for the PM peak hour.) Using the ITE average rates as was done in the traffic study underestimates the daily and both peak hour traffic volumes.

F. Overall Trip Distribution – Table 8-9 provides the vehicle trip distribution and assignment percentages used in the traffic study. Without any explanation, these percentages in the table differ from the October 2000 technical memorandum that assigned 45% of the residential trips from Parcel 7 to both the East and to the South, with the remaining 10% assigned to the North. Additionally, assignments used in the traffic study are significantly different from the distribution provided on Page 70 of the City's Circulation Element of its General Plan, again without any explanation.

G. Trip Assignments – The resulting trip assignments to roadways are significantly different in the Draft EIR traffic study from those in the 1990 General Plan. These differences need to either be reconciled or explained in the Draft EIR text. The following tables using the trips shown in Table 8-8 for the proposed project contrast assignments to Sir Francis Drake Boulevard West and the 101 Freeway:

Morning Peak Hour

Roadway	Draft EIR	General Plan
Sir Francis Drake West	23 in, 20 out	2 in, 2 out
101 Freeway South	7 in, 27 out	13 in, 31 out
101 Freeway North	7 in, 11 out	10 in, 18 out

Afternoon Peak Hour

Roadway	Draft EIR	General Plan
Sir Francis Drake West	23 in, 40 out	5 in, 5 out
101 Freeway South	32 in, 18 out	38 in, 24 out
101 Freeway North	21 in, 17 out	25 in, 18 out

Figure 8.7 in the Draft EIR shows the project's AM and PM peak hour volumes on the area's roadways. While the projected volumes should add up from intersection to intersection along these roadways, there are several cases where they do not sum from intersection to intersection. Specific examples of these errors include the following:

Morning Peak Hour

From Intersection	Volume	To Intersection	Volume
EB Doherty/Larkspur Plaza	29	EB Doherty/Piper Park	33
SB Tam. Vista/Wornum	11	EB Wornum/Redwood	38

Afternoon Peak Hour

From Intersection	Volume	To Intersection	Volume
EB Doherty/Magnolia	32	EB Doherty/Larkspur Pl.	36

IV. Insufficient Analysis

The study does not include sufficient analysis and detail in several areas including compliance with the requirements of Caltrans in preparing traffic studies, traffic intrusion into the adjacent residential area, mitigation measures, replacement parking, construction traffic impacts, and truck impacts.

A. Caltrans Guidelines - The traffic study as prepared assigns 50 PM peak hour trips to the 101 Freeway south of Larkspur. When the trip generation and distribution in the traffic study are revised to eliminate inconsistencies with other documents and when the traffic study also incorporates intensification on the other parcels in the Specific Plan, significantly more peak hour trips will likely occur on the 101 Freeway.

   The Draft EIR does not acknowledge the role of Caltrans early on in consultation. Moreover, the City must ensure that Caltrans has the opportunity to review the transportation and circulation portion of the document as well as the mitigation measures. The traffic study as prepared has not followed Caltrans' "Guide for the Preparation of Traffic Impact Studies" published in January 2001 (Attachment 4.)

   The traffic study lacks proper analysis of the entire Specific Plan traffic impacts on the adjacent 101 Freeway interchanges. The traffic study does not include detailed analysis of these ramps and ramp junctions. It also does not provide operational analysis of impacted freeway sections and weaving areas that are typically required by the State when their facilities are approaching capacity. Appropriate mitigation measures, including fair share financial participation by the developer, also have not been included in the Draft EIR.

B. Neighborhood Traffic Intrusion – As previously pointed out, the Specific Plan indicates the internal roadway system may contain an exit-only connection to Ward Street to minimize left turns at the Larkspur Plaza Drive and at the Magnolia Avenue intersections with Doherty Drive. The impacts of this connection need to be analyzed. Moreover, there would be an even greater impact to the adjacent residential area if the internal roadways in Parcel 7 provide a connection between Ward Street and Doherty Drive. Further evaluations of the possible roadway connections including their negative impacts on the adjacent residential area to the south must be conducted. Mitigation measures must be developed to address any of the associated impacts.

C. Mitigation Measures – The Draft EIR suggests mitigation measures but these recommendations need further evaluation as follows:

1. Mitigation Measure 8.1 for existing plus project conditions recommends the installation of a traffic signal at the Doherty Drive/Riviera Circle/Redwood High School intersection. Page 74 of the Circulation Element of the Larkspur General Plan indicates this intersection would not warrant a traffic signal. Page 30 of the Draft EIR for the Larkspur General Plan directed the City to change the traffic control at this intersection to a two way stop. The recommendation in the Specific Plan Draft EIR to install a signal is not supported by any technical analysis of the traffic signal guidelines (warrants) and it conflicts with statements in the General Plan.
2. Mitigation Measure 8.2 for existing plus project conditions recommends the removal of parking and the installation of southbound and westbound left turn lanes at Magnolia Avenue and Ward Street. According to Figure 8.3, there is a single lane on each approach to this intersection. Installation of only southbound and westbound left turn lanes as recommended would create an unworkable offset jog of 5' for through traffic in all directions crossing this intersection. Traffic traveling at even the posted 25 mph speed limit would not be able to safely transition back into their lane while crossing the intersection. To remedy this, either separate northbound and eastbound left turn lanes, together with further parking removals, need to be provided, or the proposed left turn lanes would not be installed, leaving the intersection impacted and unmitigated.
3. Mitigation Measure 8.3 for existing plus project conditions recommends the installation of a traffic signal on Magnolia Avenue at King Street. Installation of this traffic signal has been very controversial and the subject of much debate. Page 74 of the Circulation Element of the Larkspur General Plan indicates that the City Council desires to keep the all way stop control in place. Page 30 of the Draft EIR for the Larkspur General Plan directed the City to change the traffic control at this intersection to a two way stop. Alternate, realistic mitigation measures in lieu of traffic signals must be identified and studied in the Draft EIR.
4. Mitigation Measure 8.6 for existing plus project plus cumulative conditions recommends the installation of a northbound left turn lane on Magnolia Avenue at Ward Street, together with removal of 2 or 3 parking spaces. Adding this recommendation to Mitigation Measure 8.2 would eliminate one of the jog offsets.

Further mitigation measures for the Specific Plan to address the various errors and omissions discussed in this report must also be added to the Draft EIR.

D. Parking Replacement – Measures recommended in the Draft EIR involve removal of on-street parking spaces. Additional detail is needed to clarify where the replacement parking will be provided and to avoid potential adverse impacts with displaced parking.

1. Page 8-46 indicates eight existing parking spaces at Magnolia Avenue and Ward Street would be expected to be replaced in the Specific Plan parking lots. However, Table 8-14, which summarizes the Specific Plan parking facilities, does not appear to include this replacement parking. Failure to provide timely, necessary replacement parking would likely result in additional commercial parking in the adjacent residential area. As indicated above, installation of left turn lanes in only the southbound and westbound directions is unworkable. Adding a northbound left turn lane requires removal of 2 to 3 more parking spaces and other parking will be removed to install an eastbound left turn lane. The additional on street parking removals need to be quantified, analyzed and mitigated through replacement of these parking spaces.
2. Page 8-46 indicates about 30 curbside parking spaces will be lost on the south side of Doherty Drive east of the bridge due to development of the bicycle path. The Draft EIR suggests this loss of parking for high school students and park users is not necessarily significant, because the displaced vehicles allegedly will either park elsewhere or the people will use other modes of transportation. Failure to provide timely, necessary replacement parking would likely result in high school parking in the adjacent residential area and adverse impacts to users of Piper Park. These potentially significant impacts must be disclosed as such.

E. Construction Impacts – The Draft EIR addresses the impacts of construction very broadly and generally, and suggests that mitigation measures would be developed later when more information is known. Recommendations presented are too vague, and further study is needed to quantify the impacts and to develop appropriate mitigation requirements for inclusion in the Draft EIR. Additional topics that should be addressed include the impact of construction traffic on the two adjacent schools as well as measures to preclude construction impacts in the adjacent residential areas.

F. Truck Impacts - The Draft EIR indicates that the loading dock for the existing supermarket will be relocated and that trucks accessing the new loading area will travel through residential portions of Parcel 7 to access it. The traffic study does not address the impacts of an estimated 15 to 17 heavy truck deliveries per week as well as an estimated 10 to 20 smaller trucks each day that are typically associated with supermarkets. Other large and small truck deliveries

that will occur to support the other development in the Specific Plan have not been addressed or analyzed.

V. Inadequate Mitigation Measures

The traffic mitigation measures as proposed are inadequate. "Fair share" costs are underestimated, the implementation schedule is inappropriately vague and speculative, and some mitigation measures recommended in the Specific Plan have been omitted from the Draft EIR.

A. Fair Share Cost Estimates – Correcting the traffic study to properly account for development of the entire Specific Plan and revising the trip generation rates and trip distribution assignments will significantly increase projected traffic volumes. As a result, traffic at the various intersections will be even more congested than forecast in the traffic study. This means that the project share of future peak hour traffic volumes shown in Table 8-12 will greatly increase. The "fair share" costs of mitigation at various intersections applicable to the project will be higher than stated. Limited sight distance at the Doherty Drive/Riviera Circle/Redwood High School intersection means that flashing beacons and additional signalization should be considered. After correction of the errors discussed above, "fair share" should include these expenditures. The inaccuracy of the traffic forecast and trip assignments may impact the level of service, possibly requiring more extensive traffic improvements at other locations as well.

B. Timely Implementation of Mitigation Measures - The Draft EIR inappropriately assumes that mitigation measures such as construction of the new bridge on Doherty Drive across Larkspur Creek can be implemented concurrently with the development. Given the City's many high priority projects already scheduled for implementation, funding limitations, and other unforeseen uncertainties, these improvements may not occur for many years. The DEIR should realistically assess the likely timing of these improvements and it should also analyze additional mitigation measures that could be implemented in a timely manner.

C. Other Proposed Mitigation – A series of improvements costing an estimated $2.5 million are proposed in the Central Larkspur Specific Plan on Doherty Drive from Magnolia Avenue to Redwood High School. Many of these recommended improvements are designed to mitigate the Specific Plan's traffic and circulation impacts, and they should be paid for by the developer, not the City as is suggested. In addition, many of the potential outside grant funding sources listed in the Specific Plan are extremely competitive in nature, with very limited amounts of funding available annually. While various projects are

suggested to be paid for by the City's Traffic Impact Fees, none of them were included in the 1998 Update to this program.

VI. Conclusion

In conclusion, the Draft EIR by Lamphier-Gregory and the supporting traffic study by Wilbur Smith Associates do not adequately or properly address the traffic impacts that will result from the Central Larkspur Specific Plan. As indicated above, these documents contain many errors and omissions. Significant additional work is needed to evaluate current conditions, to properly forecast the traffic volumes, to assess the traffic impacts of the project, and to develop appropriate and adequate mitigation of the traffic on the impacted streets in the Cities of Larkspur and Corte Madera.

Attachments

1 – Shopping Center – Weekday Daily Trips
2 – Shopping Center – Weekday AM Peak Trips
3 – Shopping Center – Weekday PM Peak Trips
4 – Caltrans "Guide For the Preparation of Traffic Impact Studies"

Shopping Center
(820)

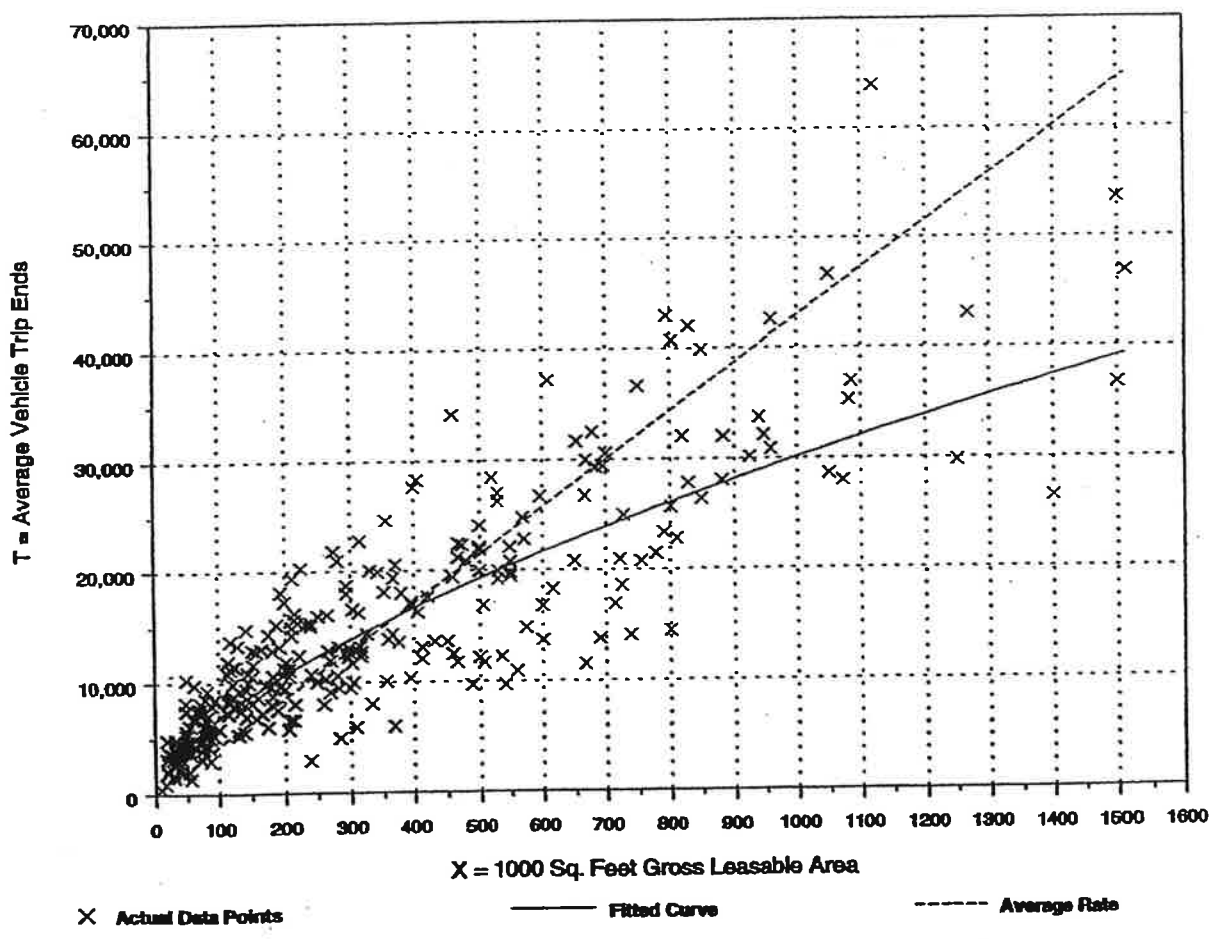
Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Leasable Area
On a: Weekday

Number of Studies: 299
Average 1000 Sq. Feet GLA: 331
Directional Distribution: 50% entering, 50% exiting

Trip Generation per 1000 Sq. Feet Gross Leasable Area

Average Rate	Range of Rates	Standard Deviation
42.92	12.50 - 270.89	21.39

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.643 Ln(X) + 5.866

$R^2 = 0.78$

Trip Generation, 6th Edition 1337 Institute of Transportation Engineers

Shopping Center
(820)

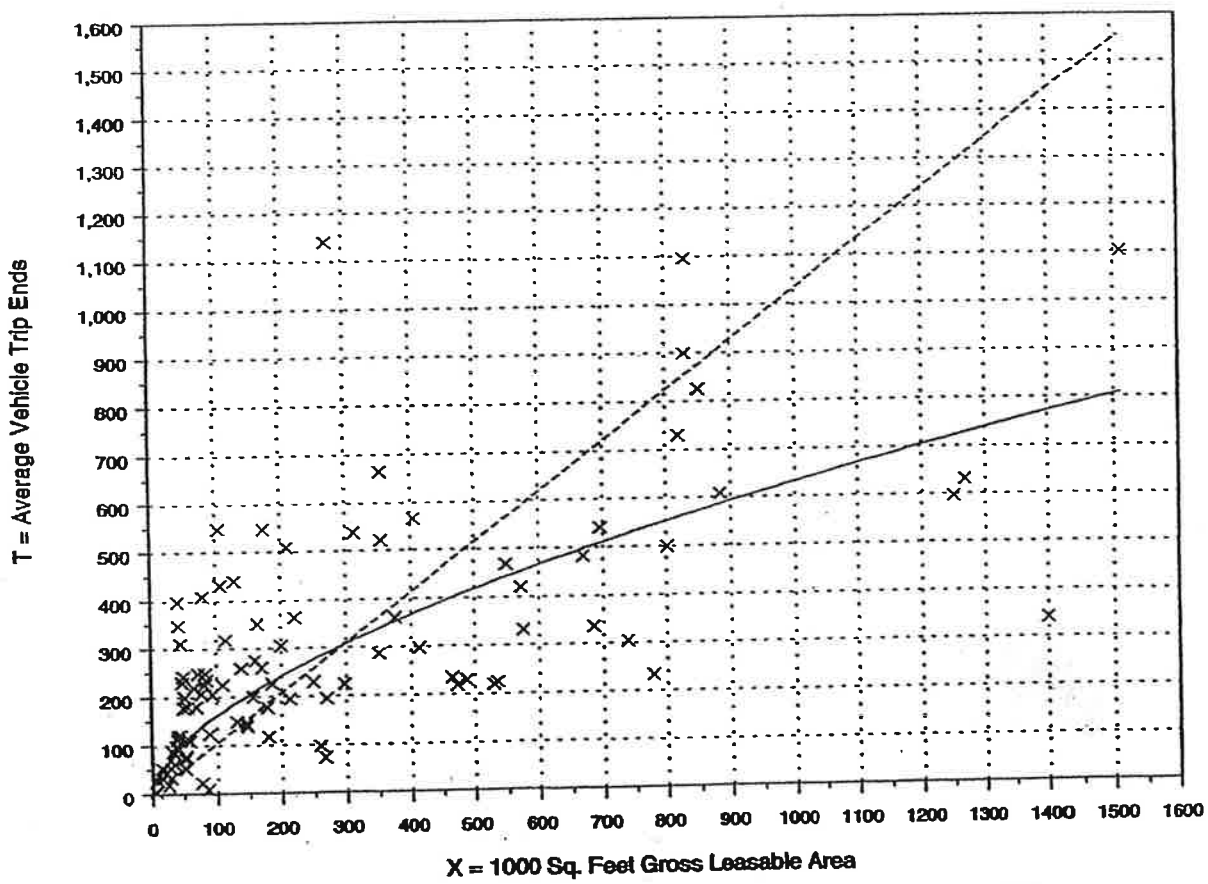
Average Vehicle Trip Ends vs: **1000 Sq. Feet Gross Leasable Area**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Number of Studies: 96
Average 1000 Sq. Feet GLA: 292
Directional Distribution: 61% entering, 39% exiting

Trip Generation per 1000 Sq. Feet Gross Leasable Area

Average Rate	Range of Rates	Standard Deviation
1.03	0.10 - 9.05	1.40

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.596 Ln(X) + 2.329

$R^2 = 0.51$

Trip Generation, 6th Edition 1338 Institute of Transportation Engineers

Shopping Center
(820)

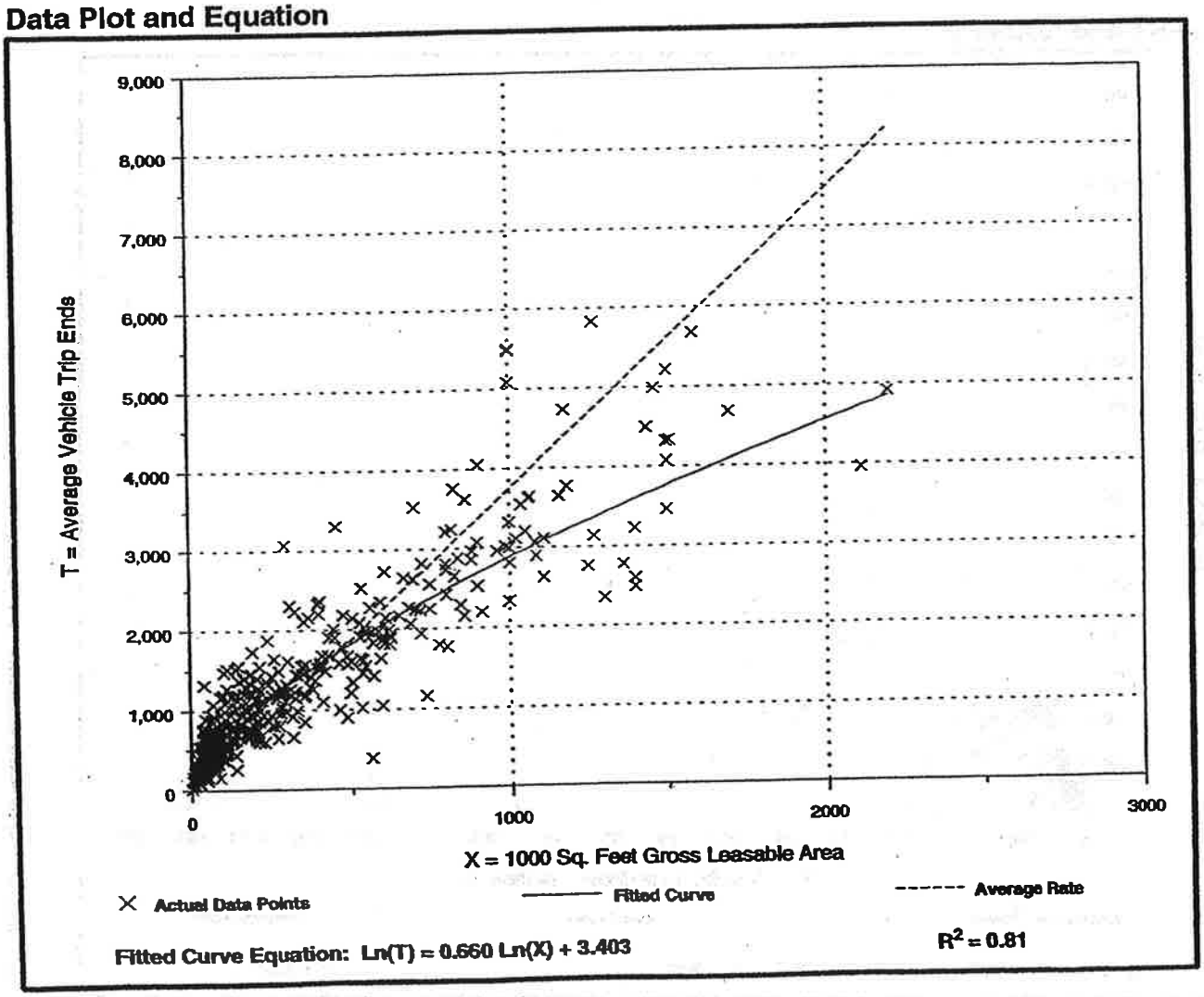
Average Vehicle Trip Ends vs: **1000 Sq. Feet Gross Leasable Area**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Number of Studies: 401
Average 1000 Sq. Feet GLA: 383
Directional Distribution: 48% entering, 52% exiting

Trip Generation per 1000 Sq. Feet Gross Leasable Area

Average Rate	Range of Rates	Standard Deviation
3.74	0.68 - 29.27	2.73

Data Plot and Equation



I. INTRODUCTION

Caltrans desires to provide a safe and efficient State transportation system for the citizens of California pursuant to various Sections of the California Streets and Highway Code. This is done in partnership with local and regional agencies through procedures established by the California Environmental Quality Act (CEQA) and other land use planning processes. The intent of this guide is to provide a starting point and a consistent basis in which Caltrans evaluates traffic impacts to State highway facilities. The applicability of this guide for local streets and roads (non-State highways) is at the discretion of the effected jurisdiction.

Caltrans reviews federal, state, and local agency development projects[1], and land use change proposals for their potential impact to State highway facilities. The primary objectives of this guide is to provide:

- guidance in determining if and when a traffic impact study (TIS) is needed,
- consistency and uniformity in the identification of traffic impacts generated by local land use proposals,
- consistency and equity in the identification of measures to mitigate the traffic impacts generated by land use proposals,
- lead agency[2] officials with the information necessary to make informed decisions regarding the existing and proposed transportation infrastructure (see Appendix A. Minimum Contents of a TIS)
- TIS requirements early in the planning phase of a project (i.e., initial study, notice of preparation, or earlier) to eliminate potential delays later,
- a quality TIS by agreeing to the assumptions, data requirements, study scenarios, and analysis methodologies in advance of beginning the study, and
- early coordination during the planning phases of a project to reduce the time and cost of preparing a TIS.

II. WHEN A TRAFFIC IMPACT STUDY IS NEEDED

The level of service[3] (LOS) for operating State highway facilities is based upon measures of effectiveness (MOEs). These MOEs (see Appendix "C-2") describe the measures best suited for analyzing State highway facilities (i.e., freeway sections, signalized intersections, on- or off-ramps, etc.). Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" (see Appendix "C-3") on State highway facilities, however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than the appropriate target LOS, the existing MOE should be maintained.

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[1] "Project" refers to activities directly undertaken by government, financed by government, or requiring a permit or other approval from government as defined in Section 21065 of the Public Resources Code and Section 15378 of the California Code of Regulations.

[2] "Lead Agency" refers to the public agency that has the principal responsibility for carrying out or approving a project. Defined in Section 21165 of the Public Resources Code, the "California Environmental Quality Act, and Section 15367 of the California Code of Regulations.

[3] "Level of service" as defined in the latest edition of the Highway Capacity Manual, Special Report 209, Transportation Research Board, National Research Council.

GUIDE FOR THE PREPARATION

OF

TRAFFIC IMPACT STUDIES

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

January 2001

PREFACE

The California Department of Transportation (Caltrans) has developed this "Guide for the Preparation of Traffic Impact Studies" in response to a survey of cities and counties in California. The purpose of that survey was to improve the Caltrans local development review process (also known as the Intergovernmental Review/California Environmental Quality Act or IGR/CEQA process). The survey indicated that approximately 30 percent of the respondents were not aware of what Caltrans required in a traffic impact study (TIS).

In the early 1990s, the Caltrans District 6 office located in Fresno identified a need to provide better quality and consistency in the analysis of traffic impacts generated by local development and land use change proposals that effect State highway facilities. At that time District 6 brought together both public and private sector expertise to develop a traffic impact study guide. The District 6 guide has proven to be successful at promoting consistency and uniformity in the identification and analysis of traffic impacts generated by local development and land use changes.

The guide developed in Fresno was adapted for statewide use by a team of Headquarters and district staff. The guide will provide consistent guidance for Caltrans staff who review local development and land use change proposals as well as inform local agencies of the information needed for Caltrans to analyze the traffic impacts to State highway facilities. The guide will also benefit local agencies and the development community by providing more expeditious review of local development proposals.

Even though sound planning and engineering practices were used to adapt the Fresno TIS guide, it is anticipated that changes will occur over time as new technologies and more efficient practices become available. To facilitate these changes, Caltrans encourages all those who use this guide to contact their nearest district office (i.e., IGR/CEQA Coordinators) to coordinate any changes with the development team.

ACKNOWLEDGEMENTS

The District 6 traffic impact study guide provided the impetus and a starting point for developing the statewide guide. Special thanks is given to Marc Birnbaum for recognizing the need for a TIS guide and for his valued experience and vast knowledge of land use planning to significantly enhance the effort to adapt the District 6 guide for statewide use. Randy Treece from District 6 provided many hours of coordination, research and development of the original guide and should be commended for his diligent efforts. Sharri Bender Ehlert of District 6 provided much of the technical expertise in the adaptation of the District 6 guide and her efforts are greatly appreciated.

A special thanks is also given to all those Cities, Counties, Regional Agencies, Congestion Management Agencies, Consultants, and Caltrans Employees who reviewed the guide and provided input during the development of this Guide for the Preparation of Traffic Impact Studies.

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A. Trip Generation Thresholds

The following criterion is a starting point in determining when a TIS is needed. When a project:

1. Generates over 100 peak hour trips assigned to a State highway facility
2. Generates 50 to 100 peak hour trips assigned to a State highway facility – and, affected State highway facilities are experiencing noticeable delay; approaching unstable traffic flow conditions (LOS "C" or "D").
3. Generates 1 to 49 peak hour trips assigned to a State highway facility – the following are examples that may require a full TIS or some lesser analysis[4]:
   a. Affected State highway facilities experiencing significant delay; unstable or forced traffic flow conditions (LOS "E" or "F").
   b. The potential risk for a traffic incident is significantly increased (i.e., congestion related collisions, non-standard sight distance considerations, increase in traffic conflict points, etc.).
   c. Change in local circulation networks that impact a State highway facility (i.e., direct access to State highway facility, a non-standard highway geometric design, etc.).

Note: A traffic study may be as simple as providing a traffic count to as complex as a microscopic simulation. The appropriate level of study is determined by the particulars of a project, the prevailing highway conditions, and the forecasted traffic.

B. Exceptions

Exceptions require consultation between the lead agency, Caltrans, and those preparing the TIS. When a project's traffic impact to a State highway facility can clearly be anticipated without a study and all the parties involved (lead agency, developer, and the Caltrans district office) are able to negotiate appropriate mitigation, a TIS may not be necessary.

C. Updating An Existing Traffic Impact Study

A TIS requires updating when the amount or character of traffic is significantly different from an earlier study. Generally a TIS requires updating every two years. A TIS may require updating sooner in rapidly developing areas and not as often in slower developing areas. In these cases, consultation with Caltrans is strongly recommended.

III. SCOPE OF TRAFFIC IMPACT STUDY

Consultation between the lead agency, Caltrans, and those preparing the TIS is recommended before commencing work on the study to establish the appropriate scope. At a minimum, the TIS should include the following:

A. Boundaries of the Traffic Impact Study

All State highway facilities impacted in accordance with the criteria in Section II should be studied. Traffic impacts to local streets and roads can impact intersections with State highway facilities. In these cases, the TIS should include an analysis of adjacent local facilities, upstream and downstream, of the intersection (i.e., driveways, intersections, and interchanges) with the State highway.

[4] A "lesser analysis" may include obtaining traffic counts, preparing signal warrants, or a focused TIS, etc.

B. Traffic Analysis Scenarios

Caltrans is interested in the effects of general plan updates and amendments as well as the effects of specific project entitlements (i.e., site plans, conditional use permits, sub-divisions, rezoning, etc.) that have the potential to impact a State highway facility. The complexity or magnitude of the impacts of a project will normally dictate the scenarios necessary to analyze the project. Consultation between the lead agency, Caltrans, and those preparing the TIS is recommended to determine the appropriate scenarios for the analysis. The following scenarios should be addressed in the TIS when appropriate:

1. When only a general plan amendment or update is being sought, the following scenarios are required:
   a) Existing Conditions - Current year traffic volumes and peak hour LOS analysis of effected State highway facilities.
   b) Proposed Project Only with Select Link[5] Analysis - Trip generation and assignment for build-out of general plan.
   c) General Plan Build-out Only - Trip assignment and peak hour LOS analysis. Include current land uses and other pending general plan amendments.
   d) General Plan Build-out Plus Proposed Project - Trip assignment and peak hour LOS analysis. Include proposed project and other pending general plan amendments.

2. When a general plan amendment is not proposed and a proposed project is seeking specific entitlements (i.e., site plans, conditional use permits, sub-division, rezoning, etc.), the following scenarios must be analyzed in the TIS:
   a) Existing Conditions - Current year traffic volumes and peak hour LOS analysis of effected State highway facilities.
   b) Proposed Project Only - Trip generation, distribution, and assignment in the year the project is anticipated to complete construction.
   c) Cumulative Conditions (Existing Conditions Plus Other Approved and Pending Projects Without Proposed Project) - Trip assignment and peak hour LOS analysis in the year the project is anticipated to complete construction.
   d) Cumulative Conditions Plus Proposed Project (Existing Conditions Plus Other Approved and Pending Projects Plus Proposed Project) - Trip assignment and peak hour LOS analysis in the year the project is anticipated to complete construction.
   e) Cumulative Conditions Plus Proposed Phases (Interim Years) - Trip assignment and peak hour LOS analysis in the years the project phases are anticipated to complete construction.

3. In cases where the circulation element of the general plan is not consistent with the land use element or the general plan is outdated and not representative of current or future forecasted conditions, all scenarios from Sections III. B. 1. and 2. should be utilized with the exception of duplicating of item 2.a.

[5] "Select link" analysis represents a project only traffic model run, where the project's trips are distributed and assigned along the highway network. This procedure isolates the specific impact on the State highway network.

IV. TRAFFIC DATA

Prior to any fieldwork, consultation between the lead agency, Caltrans, and those preparing the TIS is recommended to reach consensus on the data and assumptions necessary for the study. The following elements are a starting point in that consideration.

A. Trip Generation

The latest edition of the Institute of Transportation Engineers' (ITE) TRIP GENERATION report should be used for trip generation forecasts. Local trip generation rates are also acceptable if appropriate validation is provided to support them.

1. Trip Generation Rates – When the land use has a limited number of studies to support the trip generation rates or when the Coefficient of Determination (R^2) is below 0.75, consultation between the lead agency, Caltrans and those preparing the TIS is recommended.
2. Pass-by Trips[6] – Pass-by trips are only considered for retail oriented development. Reductions greater than 15% requires consultation and acceptance by Caltrans. The justification for exceeding a 15% reduction should be discussed in the TIS.
3. Captured Trips[7] – Captured trip reductions greater than 5% requires consultation and acceptance by Caltrans. The justification for exceeding a 5% reduction should be discussed in the TIS.
4. Transportation Demand Management (TDM) – Consultation between the lead agency and Caltrans is essential before applying trip reduction for TDM strategies.

NOTE: Reasonable reductions to trip generation rates are considered when adjacent State highway volumes are sufficient (at least 5000 ADT) to support reductions for the land use.

B. Traffic Counts

Prior to field traffic counts, consultation between the lead agency, Caltrans and those preparing the TIS is recommended to determine the level of detail (e.g., location, signal timing, travel speeds, turning movements, etc.) required at each traffic count site. All State highway facilities within the boundaries of the TIS should be considered. Common rules for counting vehicular traffic include but are not limited to:

1. Vehicle counts should be conducted on Tuesdays, Wednesdays, or Thursdays during weeks not containing a holiday and conducted in favorable weather conditions.
2. Vehicle counts should be conducted during the appropriate peak hours (see peak hour discussion below).
3. Seasonal and weekend variations in traffic should also be considered where appropriate (i.e., recreational routes, tourist attractions, harvest season, etc.).

C. Peak Hours

To eliminate unnecessary analysis, consultation between the lead agency, Caltrans and those preparing the TIS is recommended during the early planning stages of a project. In general, the TIS should include a morning (a.m.) and an evening (p.m.) peak hour analyses. Other peak hours (e.g., 11:30 a.m. to 1:30 p.m., weekend, holidays, etc.) may also be required to determine the significance of the traffic impacts generated by a project.

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[6] "Pass-by" trips are made as intermediate stops between an origin and a primary trip destination (i.e., home to work, home to shopping, etc.).

[7] "Captured Trips" are trips that do not enter or leave the driveways of a project's boundary within a mixed-use development.

D. Travel Forecasting (Transportation Modeling)

The local or regional traffic model should reflect the most current land use and planned improvements (i.e., where programming or funding is secured). When a general plan build-out model is not available, the closest forecast model year to build-out should be used. If a traffic model is not available, historical growth rates and current trends can be used to project future traffic volumes. The TIS should clearly describe any changes made in the model to accommodate the analysis of a proposed project.

V. TRAFFIC IMPACT ANALYSIS METHODOLOGIES

Typically, the traffic analysis methodologies for the facility types indicated below are used by Caltrans and will be accepted without prior consultation. When a State highway has saturated flows, the use of a micro-simulation model is encouraged for the analysis. Other analysis methods may be accepted, however, consultation between the lead agency, Caltrans and those preparing the TIS is recommended to agree on the information necessary for the analysis.

A. Freeway Sections – Highway Capacity Manual (HCM)* Chapter 3, operational analysis
B. Weaving Areas – Caltrans Highway Design Manual (HDM) Chapter 500
C. Ramps and Ramp Junctions – HCM* Chapter 5, operational analysis or Caltrans HDM Chapters 400 and 500, Caltrans Ramp Metering Guidelines (most recent edition)
D. Multi-Lane Rural and Urban Highways – HCM* Chapter 7, operational analysis
E. Two-lane Highways – HCM* Chapter 8, operational analysis
F. Signalized Intersections[8] – HCM* Chapter 9, Highway Capacity Software**, operational analysis, TRAFFIX™**, Synchro**, see footnote 8
G. Unsignalized Intersections – HCM* Chapter 10, operational analysis, Caltrans Traffic Manual for signal warrants if a signal is being considered
H. Transit Capacity – HCM* Chapter 12, operational analysis
I. Pedestrians - HCM* Chapter 13
J. Bicycles – HCM* Chapters 14, use operational analysis when applying Chapter 9 and 10 HCM methods to bicycle analysis
K. Caltrans Criteria/Warrants – Caltrans Traffic Manual (stop signs, traffic signals, freeway lighting, conventional highway lighting, school crossings)
L. Channelization – Caltrans guidelines for Reconstruction of Intersections, August 1985, Ichiro Fukutome

*The most current edition of the Highway Capacity Manual, Special Report 209, Transportation Research Board, National Research Council, should be used.

**NOTE: Caltrans does not officially advocate the use of any special software. However, consistency with the HCM is advocated in most but not all cases. The Caltrans local development review units utilize the software mentioned above. If different software or analytical techniques are used for the TIS then consultation between the lead agency, Caltrans and those preparing the TIS is recommended. Results that are significantly different than those produced with the analytical techniques above should be challenged.

[8] The procedures in the Highway Capacity Manual "do not explicitly address operations of closely spaced signalized intersections. Under such conditions, several unique characteristics must be considered, including spill-back potential from the downstream intersection to the upstream intersection, effects of downstream queues on upstream saturation flow rate, and unusual platoon dispersion or compression between intersections. An example of such closely spaced operations is signalized ramp terminals at urban interchanges. Queue interactions between closely spaced intersections may seriously distort the procedures in" the HCM. Scope of Manual, page 1-2, Highway Capacity Manual, Special Report 209, updated December 1997.

VI. MITIGATION MEASURES

The TIS should provide the nexus [Nollan v. California Coastal Commission, 1987. 483 U.S. 825 (108 S.Ct. 314)] between a project and the traffic impacts to State highway facilities. The TIS should also establish the rough proportionality [Dolan v. City of Tigard. 1994. 512 U.S. 374 (114 S. Ct. 2309)] between the mitigation measures and the traffic impacts. One method for establishing the rough proportionality or a project proponent's equitable responsibility for a project's impacts is provided in Appendix "B." Consultation between the lead agency, Caltrans and those preparing the TIS is recommended to reach consensus on the mitigation measures and who will be responsible.

Mitigation measures must be included in the traffic impact analysis. This determines if a project's impacts can be eliminated or reduced to a level of insignificance. Eliminating or reducing impacts to a level of insignificance is the standard pursuant to CEQA and the National Environmental Policy Act (NEPA). The lead agency is responsible for administering the CEQA review process and has the principal authority for approving a local development proposal or land use change. Caltrans, as a responsible agency, is responsible for reviewing the TIS for errors and omissions that pertain to State highway facilities. The authority vested in the lead agency to administer the CEQA process does not take precedence over other authorities in law.

If the mitigation measures require work in the State highway right-of-way an encroachment permit from Caltrans will be required. This work will also be subject to Caltrans standards and specifications. Consultation between the lead agency, Caltrans and those preparing the TIS early in the planning process is strongly recommended to expedite the review of local development proposals and to reduce conflicts and misunderstandings in both the local agency CEQA review process as well as the Caltrans encroachment permit process.

APPENDIX "A"

MINIMUM CONTENTS

OF A

TRAFFIC IMPACT STUDY

MINIMUM CONTENTS OF TRAFFIC IMPACT STUDY REPORT

I. EXECUTIVE SUMMARY

II. TABLE OF CONTENTS

A. List of Figures (Maps)
B. List of Tables

III. INTRODUCTION

A. Description of the proposed project
B. Location of project
C. Site plan including all access to State highways (site plan. map)
D. Circulation network including all access to State highways (vicinity map)
E. Land use and zoning
F. Phasing plan including proposed dates of project (phase) completion
G. Project sponsor and contact person(s)
H. References to other traffic impact studies

IV. TRAFFIC ANALYSIS

A. Clearly stated assumptions
B. Existing and projected traffic volumes (including turning movements). facility geometry (including storage lengths), and traffic controls (including signal phasing and multi-signal progression where appropriate) (figure)
C. Project trip generation including references (table)
D. Project generated trip distribution and assignment (figure)
E. LOS and warrant analyses - existing conditions, cumulative conditions, and full build of general plan conditions with and without project

V. CONCLUSIONS AND RECOMMENDATIONS

A. LOS and appropriate MOE quantities of impacted facilities with and without mitigation measures
B. Mitigation phasing plan including dates of proposed mitigation measures
C. Define responsibilities for implementing mitigation measures
D. Cost estimates for mitigation measures and financing plan

VI. APPENDICES

A. Description of how traffic data was collected
B. Description of methodologies and assumptions used in analyses
C. Worksheets used in analyses (i.e., signal warrant. LOS. traffic count information. etc.)

APPENDIX "B"

METHODOLOGY FOR CALCULATING EQUITABLE MITIGATION MEASURES

METHOD FOR CALCULATING EQUITABLE MITIGATION MEASURES

The methodology below is neither intended as. nor does it establish. a legal standard for determining equitable responsibility and cost of a project's traffic impact. the intent is to provide:

1. A starting point for early discussions to address traffic mitigation equitably.
2. A means for calculating the equitable share for mitigating traffic impacts.
3. A means for establishing rough proportionality [Dolan v. City of Tigard. 1994, 512 U.S. 374 (114 S. Ct. 2309)].

The formulas should be used when:

- A project has impacts that do not immediately warrant mitigation. but their cumulative effects are significant and will require mitigating in the future.
- A project has an immediate impact and the lead agency has assumed responsibility for addressing operational improvements

NOTE: This formula is not intended for circumstances where a project proponent will be receiving a substantial benefit from the identified mitigation measures. In these cases. (e.g.. mid-block access and signalization to a shopping center) the project should take full responsibility to toward providing the necessary infrastructure.

EQUITABLE SHARE RESPONSIBILITY: **Equation C-1**

NOTE: $T_E < T_B$. see explanation for T_B below.

$$P = \frac{T}{T_B - T_E}$$

Where:

P = The equitable share for the proposed project's traffic impact.

T = The vehicle trips generated by the project during the peak hour of adjacent State highway facility i vehicles per hour. vph.

T_B = The forecasted traffic volume on an impacted State highway facility at the time of general plan build-out (e.g.. 20 year model or the furthest future model date feasible). vph.

T_E = The traffic volume existing on the impacted State highway facility plus other approved projects th will generate traffic that has yet to be constructed/opened, vph.

EQUITABLE COST: **Equation C-2**

$$C = P\ (C_T)$$

Where:

C = The equitable cost of traffic mitigation for the proposed project. ($). (Rounded to nearest one thousand dollars)

P = The equitable share for the project being considered.

C_T = The total cost estimate for improvements necessary to mitigate the forecasted traffic demand on th impacted State highway facility in question at general plan build-out. ($).

NOTES

1. Once the equitable share responsibility and equitable cost has been established on a per trip basis. these values can be utilized for all projects on that State highway facility until the forecasted general plan build-out model is revised.
2. Truck traffic should be converted to passenger car equivalents before utilizing these equations (see the Highway Capacity Manual for converting to passenger car equivalents).

APPENDIX "C"

MEASURES OF EFFECTIVENESS

BY

FACILITY TYPE

MEASURES OF EFFECTIVENESS BY FACILITY TYPE

TYPE OF FACILITY	MEASURE OF EFFECTIVENESS
Freeways	
Basic Freeway Segments	Density (pc/mi/ln)
Weaving Areas	Density (pc/mi/ln)
Ramp Junctions	Flow Rates (pcph)
Multi-Lane Highways	Density (pc/mi/ln) Free-Flow Speed (mph)
Two-Lane Highways	Time Delay (percent)
Signalized Intersections	Average Control Delay (sec/veh)
Unsignalized Intersections	Average Control Delay (sec/veh)
Arterials	Average Travel Speed (mph)
Transit	Load Factor (pers/seat, veh/hr, people/hr)
Pedestrians	Space (sq. ft./ped)

Measures of effectiveness for level of service definitions located in table 1-2, Chapter 1, of the 1997 Highway Capacity Manual, Special Report 209, Transportation Research Board, National Research Council.

Transition between LOS "C" and LOS "D" Criteria
(Reference 1997 Highway Capacity Manual)

Basic Freeway Sections

LOS	Maximum Density (pc/mi/ln)	Minimum Speed (mph)	Maximum Service Flow Rate (pcphpl)	Maximum Volume/Capacity Ratio
	Free-Flow Speed = 70 mph			
A	10.0	70.0	700	0.29
B	16.0	70.0	1120	0.47
C	24.0	68.0	1632	0.68
D	32.0	64.0	2048	0.85
E	45.0	53.0	2400	1.00
F	var	var	var	var

Weaving Areas

LOS	MAXIMUM DENSITY (pc/mi/ln)	
	Freeway Weaving Area	Multi-lane and C - D Weaving Areas
A	10	12
B	20	24
C	28	32
D	35	36
E	<= 43	<= 40
F	> 43	>40

Ramp-Freeway Junction Areas of Influence

LOS	Maximum Density (Primary Measure) (pc/mi/ln)	Minimum Speed (Secondary Measure) (MPH)
A	10	58
B	20	56
C	28	52
D	35	46
E	> 35	42
F	[a]	[a]

[a] Demand flows exceed limits of table 5-1.

Signalized Intersections

LOS	Control Delay Per Vehicle (sec)
A	10
B	20
C	35
D	55
E	80
F	> 80

..... Dotted line represents the transition between LOS "C" and LOS "D"

3

ENVIRONMENTAL REVIEW REQUIREMENTS FOR ENCROACHMENT PERMITS

Any Party, outside of Caltrans, that does work on a State Highway or Interstate Highway in California needs to apply for an encroachment permit. To acquire any encroachment permit, environmental concerns must be addressed. Environmental review of encroachment permit applications may take 3 weeks if the application is complete or longer if the application is incomplete. For soil disturbing activities (e.g. geotechnical borings, grading, usage of unpaved roads from which dirt and other materials may be tracked onto the State/Interstate highways, etc.), compliance with Water Quality and Cultural Resources Provisions are emphasized. Surveys may/ may not be soil-disturbing activities, depending on the site and survey method.

A complete application for environmental review includes the following:

1. If an environmental document (CE, EIR/EIS, ND, etc.) has been completed for the project, copy of the final, approved document must be submitted with the application.

2. **Water Quality Provision:** All work within the State Right of Way must conform to Caltrans Standard Plans and Standard Specifications for Water Pollution Control including production of a Water Pollution Control Program or Storm Water Pollution Prevention Plan as required. The applicant must provide Encroachments with a copy of the Storm Water Pollution Prevention Plan (SWPPP) including Best Management Practices (BMPs) to be implemented for construction activities impacting Caltrans Right of Way, prepared for this as required by the NPDES Statewide Storm Water Permit for General Construction Activities. If no SWPPP has been prepared for this project, then the applicant must follow the requirements described in the attached Water Pollution Control Provisions (please see attachment).

3. **Cultural Resources Provisions:** If not included in the environmental document, before permit approval and project construction, the encroachment permit applicant must complete a *Cultural Resource Assessment* pursuant to Caltrans Environmental Handbook, Volume 2, Appendix B-1, and Exhibit 1, as amended. The Cultural Resources Assessment ascertains the presence or absence of cultural resources within a one-mile radius of the project area and evaluates the impact to any historical/cultural resource. Cultural Resources include "those resources significant in American history, architecture, archaeology, and culture, including Native American Resources" (Caltrans Environmental Handbook, Volume 2, Chapter1, as amended)]. The Cultural Resource Assessment must include:
   a) a clear project description and map indicating project work, staging areas, site access, etc.;
   b) a Record Search conducted at the South Central Coastal Information Center (SCCIC) located at California State University, Fullerton. For information call (714) 278-5395;
   c) proof of Native American consultation. Consultation involves contacting the Native American Heritage Commission (NAHC), requesting a search of their Sacred Lands File, and following the recommendations provided by the NAHC. For information call (916) 653-4082;
   d) documentation of any historic properties (e.g. prehistoric and historic sites, buildings, structures, objects, or districts listed on, eligible for, or potentially eligible for listing on the National Register of Historic Places) within a one mile radius of the project area;
   e) and a survey by qualified archaeologist for all areas that have not been previously researched.

   The SCCIC and NAHC have an approximate turn around time of 2 weeks.

4. **Biological Resources Provisions:** Work conducted within Caltrans Right of Way should have the appropriate plant and wildlife surveys completed by a qualified biologist. If the information is not included in the environmental document, Environmental Planning requests that the applicant submit a copy of the biological study, survey, or technical report by a qualified biologist that provides details on the existing vegetation and wildlife at the project site and any vegetation that is to be removed during project activities. Official lists and databases should also be consulted for sensitive species such as the California Natural Diversity Database and lists provided by the U.S. Fish and Wildlife Service and the California Department of Fish and Game. Any impacts that affect waterways and drainages and/or open space during construction, or that occur indirectly as a result of the project must be coordinated with the appropriate resource agencies. As guidance, we ask that the applicant include:
   a) clear description of project activities and the project site
   b) completed environmental significance checklist (not just yes and no answers, but a description should be given as to the reason for the response),
   c) staging/storage areas noted on project plans,
   d) proposed time of year for work and duration of activities (with information available),
   e) any proposed mitigation (if applicable to the project),
   f) and a record of any prior resource agency correspondence (if applicable to the project).

EXHIBIT 2

ACCOMMODATING ENROLLMENT GROWTH

Capital Improvement Planning
for
The Larkspur School District

Chauncey DiLaura
John Echeverria
Brenda Sunseri
Geoff Teall

May 15, 1998

ACCOMMODATING ENROLLMENT GROWTH

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ACCOMMODATING ENROLLMENT GROWTH

Capital Improvement Planning
May 15, 1998

From a peak of nearly 2,000 students in the early 1960's, enrollments in the Larkspur School District declined to 587 students in the 1986-87 school year. Since that time, enrollments have increased again, to nearly 900 children in kindergarten through grade eight. Now we are faced with the question: How can we best provide effective classrooms and related facilities for our students during the coming five years?

The question breaks down into several issues to be addressed in this study:

- How large do we expect our enrollment to become?
- Do our schools have sufficient *capacity* to "house" expected enrollments?
- If not, how best can we increase our district's *capacity*?
- Are our facilities of sufficient *quality* to support an effective educational program?
- If not, how can we upgrade the *quality* of our district's physical facilities?

SCHOOL ENROLLMENTS

Preliminary enrollment projections by District staff

Chart 1 below summarizes the end of our district's period of enrollment decline and the full extent of our recent resurgence in growth.

Chart 1 – Recent Historical Enrollments

October of:	Enrollment	October of:	Enrollment
1984	655	1991	808
1985	606	1992	870
1986	587	1993	892
1987	621	1994	899
1988	655	1995	865
1989	719	1996	869
1990	777	1997	894

Both the construction of new housing and the turnover of existing housing stock are the sources of current enrollment growth in the district, even though the growth is mitigated to some extent by a continuing decline in the number of students attending our schools on inter-district transfers. This suggests that we can expect enrollments to continue to increase in the years immediately ahead.

How these and other factors affect our coming enrollments in our district was the subject of a projection completed by District staff on October 21, 1997. Chart 2 below presents a summary of the information that was available at that time. The historical data was taken from October CBEDS reports; projections were based on cohort survival, modified by actual residence information from Madera del Presidio. The completion of the Creekside project and the Niven property were not taken into consideration in the projections.

Chart 2 – Staff's enrollment projections, 1998-99 through 2002-03

Grade	93-94	94-95	95-96	96-97	97-98	98-99	99-00	00-01	01-02	02-03
K	92	93	100	84	106	112	107	102	92	92
1	98	96	96	96	89	113	118	108	103	93
2	95	97	91	95	99	89	113	118	108	103
3	101	97	98	98	91	99	89	117	122	112
4	100	100	96	98	101	91	99	89	118	123
5	96	101	94	94	99	101	91	99	89	117
Total	582	584	575	565	585	605	617	633	632	640
6	100	103	98	98	101	102	104	94	102	92
7	120	94	106	100	107	101	102	104	94	102
8	90	118	86	106	101	107	101	102	104	94
Total	310	315	290	304	309	310	307	300	300	288
K - 8	892	899	865	869	894	915	924	933	932	928

Demographic study results

In December, 1997, the District asked the firm of *Lapkoff and Gobalet* to provide an independent enrollment forecast to confirm and refine the earlier staff projection. The results of our demographers' work are represented in Charts 3a, 4a, and 5a on the following pages. The low range forecast assumes adverse economic conditions and housing turnover, while the high range forecast assumes the opposite. As with the information on Chart 2 above, the completion of the Creekside project and the

Chart 3a – Demographers' enrollment forecast, 1998-99 through 2002-03: low range

Grade	98-99	99-00	00-01	01-02	02-03
K	107	90	90	90	90
1	109	107	90	90	90
2	92	109	107	90	90
3	103	92	109	107	90
4	92	103	92	109	107
5	101	92	103	92	109
Total	604	593	591	578	576
6	101	101	92	103	92
7	102	101	101	92	103
8	107	102	101	101	92
Total	310	304	294	296	287
K - 8	914	897	885	874	863

At class size maximums of twenty for kindergarten and grades one through three and twenty-five for grades four through eight, and allowing for some flexibility in estimates, our minimum homeroom classroom needs are shown on Chart 3b below.

Chart 3b – Homeroom classroom requirements, 1998-99 through 2002-03: low range

Grade	98-99	99-00	00-01	01-02	02-03
K	5.5	5.0	5.0	5.0	5.0
1	5.5	5.5	5.0	5.0	5.0
2	5.0	5.5	5.5	5.0	5.0
3	5.0	5.0	5.5	5.5	5.0
4	4.0	4.0	4.0	4.5	4.5
5	4.0	4.0	4.0	4.0	4.5
Total	29.0	29.0	29.0	29.0	29.0
6	4.0	4.0	4.0	4.0	4.0
7	4.0	4.0	4.0	4.0	4.0
8	4.0	4.0	4.0	4.0	4.0
Total	12.0	12.0	12.0	12.0	12.0
K - 8	41.0	41.0	41.0	41.0	41.0

Chart 4a – Demographers' enrollment forecast, 1998-99 through 2002-03: medium range

Grade	98-99	99-00	00-01	01-02	02-03
K	110	112	112	112	112
1	110	111	113	113	113
2	94	112	113	115	115
3	106	97	115	116	118
4	93	107	98	116	117
5	102	94	108	99	117
Total	615	633	659	671	692
6	105	106	98	112	103
7	105	108	109	101	115
8	106	104	107	108	100
Total	316	318	314	321	318
K - 8	931	951	973	992	1010

At class size maximums of twenty for kindergarten and grades one through three and twenty-five for grades four through eight, and allowing for some flexibility in estimates, our minimum homeroom classroom needs are shown on Chart 4b below.

Chart 4b – Homeroom classroom requirements, 1998-99 through 2002-03: medium range

Grade	98-99	99-00	00-01	01-02	02-03
K	5.5	6.0	6.0	6.0	6.0
1	5.5	6.0	6.0	6.0	6.0
2	5.0	5.5	6.0	6.0	6.0
3	6.0	5.0	6.0	6.0	6.0
4	4.0	4.5	4.0	5.0	5.0
5	4.0	4.0	4.0	4.0	5.0
Total	30.0	31.0	32.0	33.0	34.0
6	4.0	4.0	4.0	4.0	4.0
7	4.0	4.0	4.0	4.0	5.0
8	4.0	4.0	4.0	4.0	4.0
Total	12.0	12.0	12.0	12.0	13.0
K - 8	42.0	43.0	44.0	45.0	47.0

Chart 5a – Demographers' enrollment forecasts, 1998-99 through 2002-03: high range

Grade	98-99	99-00	00-01	01-02	02-03
K	117	135	138	138	138
1	114	122	140	143	143
2	98	120	128	146	149
3	98	93	115	123	141
4	93	99	94	116	124
5	104	95	101	96	118
Total	624	664	716	762	813
6	112	114	105	111	106
7	109	118	120	111	117
8	109	110	119	121	112
Total	330	342	344	343	335
K - 8	954	1006	1060	1105	1148

At class size maximums of twenty for kindergarten and grades one through three and twenty-five for grades four through eight, and allowing for some flexibility in estimates, our minimum homeroom classroom needs are shown on Chart 5b below.

Chart 5b – Homeroom classroom requirements, 1998-99 through 2002-03: high range

Grade	98-99	99-00	00-01	01-02	02-03
K	6.0	7.0	7.0	7.0	7.0
1	6.0	7.0	7.0	7.5	7.5
2	5.0	6.0	7.0	7.5	7.5
3	5.0	5.0	6.0	6.0	7.0
4	4.0	4.0	4.0	5.0	5.0
5	4.0	4.0	4.0	4.0	5.0
Total	30.0	33.0	35.0	37.0	39.0
6	4.0	4.0	4.0	4.0	4.0
7	4.0	5.0	5.0	4.0	5.0
8	4.0	4.0	5.0	5.0	4.0
Total	12.0	13.0	14.0	13.0	13.0
K - 8	42.0	46.0	49.0	50.0	52.0

SCHOOL CAPACITIES

The District's schools are not large enough to house the enrollments that we expect during the coming years. The pinch is already being felt at Neil Cummins School, but under both the medium and high range enrollment forecasts Hall Middle School will be impacted as well before the end of the five year planning period. Moreover, when the enrollment bulge expected for Neil Cummins School during the coming five years passes on to middle school, Hall will then be substantially impacted.

Neil Cummins School in 1997-98

In 1997-98 Neil Cummins School has twenty-seven homeroom classrooms available to it. These classrooms are fully utilized by twenty-eight homeroom classes of students as shown below:

Grade Level	Facilities	Uses
kindergarten	3 classrooms	3 kindergartens
	1 classroom	2 kindergartens
K-1 combination	1 classroom	1 K-1 combination
grade 1	4 classrooms	4 homerooms
grade 2	5 classrooms	5 homerooms
grade 3	5 classrooms	5 homerooms
grade 4	4 classrooms	4 homerooms
grade 5	4 classrooms	4 homerooms
Totals	27 classrooms	28 homerooms

In addition to the permanent and portable classrooms listed above, the campus has four more classrooms. One classroom is used as a technology center; one is a science room; and a double classroom space is used as a music room. While these spaces could be converted to use as classrooms (thus impairing or eliminating the programs housed in them), there is a strong concern by the community and staff that these classrooms should continue to be used for their dedicated purposes.

Finally, the campus also contains two daycare buildings and eight small spaces for special programs that are not convertible to use as classrooms. It is generally felt that these smaller spaces are inadequate to house the school's many support and enrichment programs, which require separate spaces for instrumental music, bilingual services, math/reading tutorial, psychologist, counselor, nurse, curriculum coordinator, speech therapist, and resource specialist.

Neil Cummins School in 1998-99

Charts three through five indicate that, barring sudden economic adversity and consequent demographic reversal (low range scenarios on Chart 3), Neil Cummins School will grow to require thirty homerooms in 1998-99. The district is in the process of adding one portable kindergarten-sized classroom and a half-classroom planning space to the campus for the start of the school year to accommodate this growth, bringing the total number of available homeroom classrooms to twenty-eight, to be used as follows:

Grade Level	Facilities	Uses
kindergarten	3 classrooms	6 kindergartens
grade 1	6 classrooms	6 homerooms
grade 2	5 classrooms	5 homerooms
grade 3	5 classrooms	5 homerooms
grade 4	4 classrooms	4 homerooms
grade 5	4 classrooms	4 homerooms
support services	1 classroom	1 enrichment room
Totals	28 classrooms	30 homerooms 1 enrichment room

Neil Cummins School in 1999-00 and beyond

At this time it appears that existing and planned facilities on the Neil Cummins School campus will be inadequate for housing expected enrollments after the 1998-99 school year. One of three courses of action will be called for by that time: a) utilize all of the classrooms that will have been used in 1998-99 for other purposes (the support and enrichment services room, the science room, the music room, and the technology center), beginning with the least number needed in 1999-2000; b) construct additional classrooms (and additional restrooms by that time); or c) reduce the enrollment on the campus.

Hall Middle School

Hall Middle School enrollments are expected to increase (except under the low range forecast) but to remain relatively stable during the coming five year period. However, during the following five year period (from 2003-04 through 2007-08) the increased enrollments that will be experienced at Neil Cummins School during 1998-99 through 2002-03 will have entered the middle school age group. Beginning 2003-04 it is expected that our middle school enrollments will begin to increase substantially. When evaluating alternative approaches to capital development in the District, it will be necessary to take this large but delayed impact into consideration.

By advancing the enrollments from Neil Cummins School at the end of the coming five year planning period into Hall Middle School at the beginning of the following period, we observe the following estimates of growth under medium and high range forecasts:

Chart 6a — Extended enrollment forecasts, 2003-04 through 2007-08
Hall Middle School medium to high range estimates

Grade	03-04	04-05	05-06	06-07	07-08
6	117-118	117-124	118-141	115-149	113-143
7	103-106	117-118	117-124	118-141	115-149
8	115-117	103-106	117-118	117-124	118-141
Total	**335-341**	**337-348**	**352-383**	**350-414**	**346-433**

At class size maximums of twenty-five, but allowing for some flexibility, our minimum middle school homeroom classroom needs are shown on Chart 6b below.

Chart 6b — Extended classroom requirements, 2003-04 through 2007-08
Hall Middle School medium to high range estimates

Grade	03-04	04-05	05-06	06-07	07-08
6	5.0	5.0	5.0-6.0	5.0-6.0	5.0-6.0
7	4.0	5.0	5.0	5.0-6.0	5.0-6.0
8	5.0	4.0	5.0	5.0-6.0	5.0-6.0
Total	**14.0**	**14.0**	**15.0-16.0**	**15.0-18.0**	**15.0-18.0**

In 1997-98 Hall Middle School's CBEDS enrollment of 309 required 12 homerooms. During the coming five year planning period, the school's homeroom requirement will possibly increase by one under a medium range enrollment forecast (Chart 4b). It will probably increase by one and possibly by two homerooms under a high range forecast (Chart 5b).

However, as K-5 enrollments move on to middle school after 2002-03, Hall's homeroom requirement will increase as shown immediately above to between fifteen and eighteen -- three to six more homerooms than in 1997-98. Planning our District's facilities needs for the coming five years must take into account this later growth at the middle school level.

AGING FACILITIES

In addition to not being large enough, Neil Cummins School and Hall Middle School are aging and in need of substantial renovation and modernization.

The permanent buildings at the front of Neil Cummins School were built during 1951-52, and the permanent buildings behind them were completed in 1954 and 1956. The present fifth grade building was completed in 1963. Previously used portable classrooms were added by the District to the campus during the late 1960's. These are owned by the Marin County Office of Education, and are approaching the end of their useful life. Finally, the District added three portable classrooms for the 1991-92 school year.

The main buildings on the Hall Middle School campus were constructed during 1959. The library and sixth grade wing were completed in 1965. The aging portable physical education bungalows -- also still owned by the Marin County Office of Education -- were added for the 1967-68 school year. Finally, two District-owned portable classrooms were added during the summer of 1993.

In sum, all permanent school buildings in our District are more than thirty years old; and most are more than forty years old. Half the portable classrooms on our campuses are owned by the Marin County Office of Education, and are in great need of repair. Only our District-owned portable classrooms are relatively young. The maintenance requirements of all the District's buildings are continual concerns, and occupy a large portion of the administrative overhead in the annual operating budget.

MASTER PLAN ALTERNATIVES

Planning goals

This working paper presents eight possible solutions to the problems presented by enrollment growth and aging facilities.

Our planning goals are:

1. Identify program implications of each alternative that will be examined in complete detail in a later phase of plan development.

2. Plan to house enrollments between medium and high range forecasts.

3. Renovate and modernize permanent facilities to the fullest extent possible.

4. Return to single session kindergartens as soon as practical.

EXHIBIT 3

DEBORA BUSSE

76 VIA LA BRISA

LARKSPUR, CALIFORNIA 94939

(415) 927-3554

(415) 927-3304 (FAX)

August 26, 2002

Richard R. Illingworth
Illingworth & Rodkin
505 Petaluma Blvd. South
Petaluma, CA 94952
(via fax)

Dear Mr. Illingworth,

I am writing in response to your sound and vibration study prepared for the CLASP Draft EIR. I am troubled by contradictory statements and inaccuracies in the report.

Specifically, you state (on page 10-11 of your report) several mitigation measures for the proposed homes on the Niven property such as "walled courtyard entrances or atrium homes ... a minimum distance of 70 ft from the south curb of Doherty Drive... 5-foot high masonry, stucco or architecturally finished concrete walls shall be used to reduce roadway noise for adjoining residences. Future noise levels at distances of 70 feet from the curb of Doherty Drive will be an L_{dn} of about 64 dB"
Anyone who has observed traffic and noise on Doherty Drive would agree with these statements.

However, earlier on page 10, your report reads:

> "Noise measurements were made in the backyards of these homes and vibration measurements were made inside of the homes. Twenty-four hour noise measurements were conducted between May 7 and May 9, and vibration measurements were conducted during the same time period. The maximum peak particle velocities measured in any of the homes was 0.03 inches per second, significantly below the vibration impact criteria. Outdoor noise levels ranged from an L_{dn} of 56 dB in the backyards of the homes at 76 Via La Brisa and 71 Riviera Circle to an L_{dn} of 65 dB at the home at 690 Riviera Circle.

You may recognize my address, as my home was one of the three homes adjacent to Doherty Drive, used to measure the sound and vibrations during your study. As my back porch is only 25 feet from the north curb of Doherty Drive, it's difficult to imagine that the noise levels in my yard and home are so low. I can assure you, they are not. I recently invested in double-paned windows in an effort to muffle the noise, which is enough to wake me from a sound sleep on many occasions. It's difficult to imagine that the developer would go to the trouble of a 70-ft. setback for the new homes to avoid the noise impact, unless the noise on Doherty Drive was excessive.

Regardless of my home's distance from Doherty Drive, I find it very disturbing that you state that "vibration measurements were made inside of the homes". **At no time did your company place any equipment inside my home**, or the Maltzahn's home at 71 Riviera Circle. Additionally, it's extremely misleading to state that 24-hour noise measurements were conducted. I inspected my property during this time (as I received messages from your office advising me of the study) and observed no equipment on my premises upon returning home from work on each of these days. It is my understanding the measurements were taken over three 8-hour time periods. While the math may appear to be the same, three 8-hour readings are clearly not the same as one 24-hour reading. It is also my understanding that the three-day period in question coincided with the Star-9 testing at Redwood High School. During this time, seniors were allowed to take half-days off, as they were exempt from the tests. Their absence would have reduced the traffic (thereby lessening the noise) during this period of time.

If vibration measurements were taken during this time, the readings were artificially low due to the absence of high tides. As the full-moon phase was nearly two weeks earlier than the dates in question, the absence of ground water (which greatly impacts liquefaction and ground vibrations) would diminish the effect. I'm sure you realize the water table plays a significant role in augmenting the vibrations.

To counter your conclusions on page 12; my windows do not rattle, especially now that I've replaced them with heavy double-paned glass. However, before they were replaced, they did not vibrate as a result of high volume stereos. I have documented damage to my home (a sewer line that separated) as a result of the constant ground shaking from the heavy truck traffic that frequents Doherty Drive. A stereo could not cause sewer pipes to separate. A thirty-year-old wooden fence can hardly mask the sound of a diesel truck, especially since the trucks are taller than the fence. It's ludicrous to assume a layer of plywood would lessen the noise of the street barely more than 20 feet feet away; if this is the case, then why are you recommending masonry sound walls and a 70-ft setback for the new homes? How can you conclude the traffic generated by this project will not impact the "situation along this road"? If the current construction at Redwood High School is any indication of what's to come, the impact to the area will be quite significant.

As I conclude, I find it impossible to believe that decibel readings did not exceed 56 in my yard or at 71 Riviera Circle, when the 1991 report from Salter Associates (included in the document from Rifkind Law Firm) projects truck traffic as loud as 80 Db. Carol Maltzahn personally told me she observed your sound meter at her home, and watched it register levels in excess of 65 Db several times. I understand that someone at Kiki Judd's home observed readings on your equipment that exceeded 80 Db. Please check with Mr. Svinth, who conducted these tests – I'm told he's aware of these readings. With respect to the vibration study, I suggest you review the vibration study conducted by the City of Larkspur in October, 2000. This report shows the PPV (peak particle velocity) to exceed 0.04 <u>after</u> the roadway resurfacing (an improvement from the .187 before the resurfacing). Your study quotes this measurement as 'vibrations annoying to people in buildings' and 'risk of architectural damage to normal dwellings such as plastered walls or ceilings'. In the two years that have passed since the resurfacing, and the road degradation from the recent construction projects at both nearby schools, we are well on our way to returning to the "pre-resurfacing" condition.

I have repeatedly asked for the raw data used to prepare your report. The EIR document should have these readings included in the appendix. Instead, I was mailed a stack of reports that I've already seen, including the Rifkind Law document, which was prepared for the City several years ago stating the need for a masonry sound wall to mitigate the noise in our back yards.

As I only have a few days left to respond to the Draft EIR, I ask that you provide the data taken from your sound measuring devices to me at your earliest convenience. Please feel free to call me if you have any questions about my request. I can be reached during business hours at 925-924-2564.

Sincerely,

Debora Busse

cc: City of Larkspur, Planning Dept.

V-1 Comment V-1 is an introductory summary of comments made throughout the letter. Please see responses to Comments V-2 through V-105 for responses to comments raising specific issues.

V-2 The comment implies that hotel, retail, and residential uses are inconsistent with General Plan policy to maintain Larkspur's "small-town character." As reflected in Section 4.1 of the DEIR, all of these uses are consistent with the current land use designations, and thus with Goal 14. The City notes that this policy addresses properties with "redevelopment potential," where change is "expected to occur." (Policy r, page 35.) As required under related Action Program [22], the City has prepared a draft Specific Plan for uses other than nursery uses. In short, the Specific Plan proposes and the DEIR reviews future potential hotel, retail, and residential uses already provided for in the General Plan. See also Impact 4.1-3.

Also, the underlined phrase in Comment V-2 refers to "some parts of the site may have potential for higher density residential." Though senior and affordable housing would be allowed, the proposed density is nevertheless in the low density range.

Traffic impacts, including access, circulation, and pedestrian and bicycle circulation and safety, are fully addressed in Section 4.7 of the DEIR.

V-3 The DEIR represents an objective, good-faith analysis of the potential environmental impacts of the Specific Plan. The comment raises no specific information relative to the issues noted; therefore, no further response is warranted.

V-4 In accordance with Section 15126.6 of the State CEQA Guidelines, the DEIR considers a reasonable range of potentially feasible alternatives that would feasibly attain most of the basic objectives of the project and avoid or substantially lessen one or more of the significant effects.

As reflected in a brief review of the DEIR Executive Summary, most of the project's impacts are related to activities that would accompany any development in the project area. Demolition of the nursery site, building construction and related construction noise, traffic and air quality impacts would be common to development of any uses. Similarly, grading across the site and related hydrology and drainage and cultural resources effects would be common to development of almost any use of the site.

Because these "qualitative" or locational effects accompany the fact of development in the area, the DEIR reasonably focused on adjusting the amount and mix of development alternatives to address the other significant project impact of traffic. As further noted in paragraph 9 under Land Use Changes in the General Plan, potential traffic problems are a City concern, and a reasonable focus of both the project analysis and identification of alternatives.

Contrary to the comment, the DEIR does not "reject" the Lower Density, or any other of the alternatives. It is not the role of the EIR to accept or reject the project or its alternatives. That is the role of the City Council.

V-5 The City disagrees that the DEIR and Specific Plan are inadequate as proposed and analyzed. Please refer to Section 1.3 of the FEIR, which explains that none of the requirements of recirculation of an EIR prior to certification (as defined in CEQA Guidelines §15088.5) have been triggered. Therefore, recirculation of the November 2003 DEIR is not required.

V-6 The square footage of new retail in Subarea 1 as shown in DEIR Table 2-7 is incorrect; that is, the Table 2-7 incorrectly shows 58,100, which is the square footage for both existing and new retail (also see DEIR Table 2-4). FEIR Chapter 4 includes text revision to DEIR Page 2-23 to show the correct square footage of new development, which is 46,565. With this correction, Table 2-7 and Table 4.7-6 are consistent and the effects of the potential for new development were correctly analyzed.

Table 2-1 shows the range of land uses that are possible in the Specific Plan area. Specific to Subarea 1, the primary restriction to land use is the floor-area ratio (FAR). In other words, a number of combinations of commercial and residential land uses are allowable in Subarea 1 as long as the land use density and intensity are not exceeded. Because commercial uses would generate the highest number of vehicular trips during the peak hour, the analysis in the DEIR assumes only commercial uses would be developed in order to assess the worst-case environmental effects. For this reason, Table 2-7 shows no residential use in the theoretical maximum intensity scenario, whereas Table 2-1, which shows the range of land use that may be in Subarea 1, includes residential uses. The tables depict data types that are not directly comparable. Therefore, they are not inconsistent.

Table 4.7-6 and the corrected Table 2-7 show the combination of land uses that would result in the highest traffic volume. For this reason, traffic, air quality, and noise impacts are not understated, and further revisions of the DEIR, with regard to traffic volume analyzed, are not necessary. See response to Comment J-4.

V-7 DEIR Chapter 4 includes environmental setting information for each environmental issue area. Also see responses to Comments V-8 and V-9.

V-8 The "*Accommodating Enrollment Growth, Capital Improvement Planning for the Larkspur School District* (Lapkoff and Gobalet 1998) (Schools Report), which was written in 1998, provides enrollment forecasts out to 2002-2003 for K-5 and 2007-2008 for grades 6-8 based on demographics, and states that schools in the Larkspur School District are not large enough to house the expected enrollments. The Schools Report was reviewed in preparation of the DEIR. However, the DEIR was prepared in 2003, so actual 2002-2003 school enrollment numbers, as supplied by the Larkspur and Tamalpais Union High School Districts, were used in Table 4.9-1 of the DEIR rather than numbers estimated in the 1998 Schools Report. The 2003 enrollment and capacity data from the

Districts indicated that the enrollment that would result from potential Specific Plan residential development would be smaller than the estimated facility capacity. Therefore, the less-than-significant impact determination for Impact 4.9-1 (DEIR at Pages 4.9-6 and 4.9-7), which is based on more current data than that presented in the "Schools Report," is appropriate and no change in the analysis or impact conclusion is warranted. It is noted that since the publication of the DEIR, Larkspur School District has provided new school enrollment information. According to Larkspur School District, 2004-2005 enrollment consists of 654 students for Neil Cummins Elementary School. With 37 classrooms that hold a minimum of 20 students each (Winkler, pers. comm. 2004), the school would have capacity for 740 students. Thus, the school has capacity for additional 86 students during the 2004-2005 school year. Furthermore, Larkspur School District currently owns and leases San Clemente School to a private school. It has given notice to end the lease and would have additional capacity at lease termination; thus, Larkspur School District would have additional capacity to accommodate new students should there be a need, which is being determined in a demographic study the Larkspur School District has initiated.

V-9 The DEIR accurately reflects the environmental setting of the study area and reports the results of seven consecutive days of traffic count data collected for Magnolia Avenue and Doherty Drive. The May 2003 ADT counts for Magnolia Avenue reported about 2,800 fewer vehicle trips than did the ADT volumes taken in 1999 at the same location. The 2003 ADT volume data are attached to this document (Appendix F-4). A review of the 2003 volume data by the field count supervisor and the DEIR traffic consultant indicates no equipment malfunctions and no tampering with the field equipment (see also responses to Comments A-4, I-3, and L-5). The 2003 ADT volumes are an accurate accounting of seven consecutive days of traffic volumes at the specific Magnolia Avenue location. The counts are neither "artificially low" nor do they misstate the project setting.

It is important to understand that the ADT data serves as a background indicator only. ADT volumes provide a broad overview of a study area, and are not directly used in the analysis of the study area background or project traffic conditions. It is the peak period and ultimately peak hour traffic volumes and only these volumes that serve as the foundation of the DEIR traffic operations analysis. It is further noted that when peak period traffic volumes at study intersections are compared, there are relatively small differences between 1999 volumes and 2003 volumes, with the majority of locations showing slight increases in 2003. This trend is borne out when comparing the peak hour LOS findings between the original DEIR (June 2002) and the revised DEIR (November 2003). There is no meaningful change in the reporting of intersection LOS between these documents. This is because peak hour traffic volumes have remained fairly consistent over the past few years based on counts collected in the field. The City's contract traffic engineer has on several occasions reviewed both traffic counts and LOS findings for this DEIR and found them to be reasonable and consistent with previous efforts in the study area. The City's contract traffic engineer has also reviewed the DEIR analysis, the comments, and the Brohard report and respectfully disagrees

with Mr. Brohard's analysis. The traffic volumes used in the DEIR are based on actual field data and are valid for DEIR traffic analysis purposes.

V-10 This comment is introductory to specific comments that follow in Section C of the letter. See responses to comments V-11 through V-38 below. Please refer also to response to Comments S-3, T-6 and V-3.

V-11 The comment refers specifically to the square footage of project retail uses analyzed and to the findings of ADT volume count data reported in the DEIR. Both of these specific issues are addressed above (see responses to Comments V-6 and V-9). .With regard to the intersection of King and Magnolia Avenues, please see response to Comment I-2.

V-12 Among the thresholds for land use impacts is conflict with the environmental goals, policies, and the general plan. Environmental goals of the General Plan are addressed throughout the DEIR, and the DEIR include a complete review of the consistency of the policies and provisions of the Larkspur General Plan, the Larkspur Downtown Specific Plan, the Zoning Ordinance, and the Park Dedication Ordinance with the Specific Plan in Section 4.1 (see also Specific Plan Appendix A, Central Larkspur Specific Plan Conformance with the Larkspur General Plan 1990 -2010, Housing Element 1990, and the Larkspur Downtown Specific Plan). Impacts 4.1-1, 4.1-2, and 4.1-3 of the DEIR disclose and evaluate the potential inconsistencies of the Specific Plan with the policies of the General Plan and the Larkspur Downtown Specific Plan. The Specific Plan is a tool for the systematic implementation of the General Plan; therefore, it must be consistent with the General Plan. Specific Plan Goal 4, Community Design, requires that the City design the area and individual buildings to complement and respect Larkspur's small town character and historic downtown and that the design should be pedestrian-friendly, and have strong landscape character.

As described in the DEIR, the Specific Plan is consistent with the City's General Plan. The Specific Plan project includes companion general plan amendments for Land Use Policy 26 of the Specific Plan, which calls for a public park in Subarea 3, and Transportation Policies 20 and 22, which call for new bikeway alignments that are not reflected in the current General Plan. (See also, Specific Plan Land Use Policy 5 and Policies a, d, e, k, and l in the Bicycle and Pedestrian Trails and Paths chapter of the General Plan.)

As required by Land Use Chapter Action Program [13] in the General Plan, the Larkspur Downtown Specific Plan was developed to address appropriate uses, traffic, parking, economic vitality, building preservation, and design of new development, as well as the link between Old Downtown, the Larkspur Shopping Center, and North Magnolia Avenue. Any future development and planning effort within the Larkspur Downtown Specific Plan area must be consistent with the Larkspur Downtown Specific Plan. As explained in Impact 4.1-2, Specific Plan Subareas 1 and 2 are located within the Larkspur Downtown Specific Plan boundaries and the land uses proposed are consistent with those identified in the Larkspur Downtown Specific Plan. The

proposed Central Larkspur Specific Plan would alter the Larkspur Downtown Specific Plan by removing Subareas 1 and 2 from its boundaries, and is otherwise consistent.

Also disclosed in Impact 4.1-2, the Specific Plan requires development in the southern portion of Subarea 1, including a hotel, office, second-story residential, etc., be consistent with the restrictions of the Downtown Historic District and Historic Preservation District Overlay zone. Therefore, development would be consistent with the restrictions of the historic district, and adequate open space would be required to provide an appropriate setting for the historic railroad buildings.

The potential construction of a hotel in Subarea 1 is consistent with the policies and provisions of the City's existing plans and ordinances. As described in Impact 4.1-1, the General Plan's allowed land uses include hotels/inns in Specific Plan Subareas 1 and 2. Impact 4.1-2 explains that the Subarea 1 and 2 land uses proposed in the Specific Plan are consistent with those identified in the Larkspur Downtown Specific Plan, that all development in the southern portion of Subarea 1 (potentially including a hotel) would be implemented in a manner consistent with the restrictions of the Downtown Historic District and the Historic Preservation District Overlay zone, and that adequate open space would be required to provide an appropriate setting for the historic railroad buildings. Development within the Downtown Historic District, including a potential hotel in Subarea 1, is subject to Heritage Preservation Board review to ensure that development would fit the City's vision for Old Downtown. Therefore, a hotel in Subarea 1 would be consistent with the General Plan, the Larkspur Downtown Specific Plan and the Downtown Historic District.

As presented in the DEIR and summarized here, the Specific Plan would have a less-than-significant impact on land use and planning and would not conflict with the Larkspur General Plan. Ultimately, the City Council will determine whether the project is consistent with the General Plan. Also see response to comment I-2.

V-13 The traffic and parking impacts associated with a 36-room hotel were included in the analysis of traffic impacts for the Specific Plan as a whole (see Table 4.7-7, DEIR at Pages 4.7-21 and 4.7-22), and with implementation of recommended mitigation measures, impacts would be reduced to a less-than-significant level. A 36-room hotel would not result in inconsistency with the stated goals and policies related to traffic and parking.

V-14 Please refer to response to Comment V-12.

V-15 The signalization of Magnolia Avenue/King Street, one of the DEIR mitigation measures, is identified in the City's Transportation Improvement Fund (TIF) program. It could be considered a capacity improvement because a signal would theoretically allow more traffic to pass through the intersection in an hour than if the intersection is unsignalized. While the intent of the signalization is to improve traffic flow for local trips, signalization may simultaneously allow for additional through traffic trips at this intersection. Whether or not more vehicles would choose to use this route if a signal was installed is not known. The DEIR finds that this intersection operates below

acceptable levels of service during the PM peak commute period. The City has considered improvements at this intersection on a number of occasions and, after weighing potential options, has decided to allow the intersection to continue as a four-way stop and to operate at unacceptable PM peak hour LOS.

General Plan Policy n states the following:

> Policy n: Do not make capacity improvements to Magnolia Avenue that would encourage additional through traffic.

Inconsistencies with land use plans may be significant environmental impacts if the plan, policy, or regulation is adopted for the purpose of avoiding or mitigating an environmental effect (DEIR, page 4.1-9; see also State CEQA Guidelines, Appendix G, Environmental Checklist Form, IX Land Use and Planning (b)). In its decision-making process, the City of Larkspur shall determine if Mitigation Measure 4.7-3, which recommends a traffic signal at King Street/Magnolia Avenue, conflicts with the stated policy. If the City determines that these improvements are not feasible because of inconsistency with the General Plan or for other reasons, the City would be required to document its reasoning in written findings pursuant to CEQA Guidelines Section 15091, and prepare a statement of overriding considerations pursuant to CEQA Guidelines Section 15093. The findings and statement of overriding considerations are to be supported by substantial evidence in the record (see also response to Comment V-10).

V-16 The General Plan land use map, land use designations, the zoning map, and the zoning code determine permitted land uses and densities, rather than the Housing Element. As stated in Impact 4.1-1 of the DEIR (Page 4.1-12), the General Plan designates Subarea 3 as Low Density Residential, which allows up to five dwellings per gross acre. The Specific Plan proposes a maximum of 85 residential units in Subarea 3, which equates to 5 dwelling units per acre, a density consistent with the General Plan. It is noted that the City updates the Housing Element every five years to reflect current conditions and is currently updating its Housing Element.

V-17 The commenter is referred to responses to Comments V-12 and V-16 for discussion regarding the consistency of the Specific Plan with applicable planning documents. As discussed in response to Comment V-12 and in DEIR Section 4.1, the Specific Plan (i.e., land use diagram, policies, and standards) would be consistent with the General Plan. With regard to the other two alternatives, the DEIR states that all Specific Plan policies and standards are assumed to remain as proposed for the Low Density Alternative and Residential Focus Alternative (DEIR Pages 6-9 and 6-14). The Specific Plan policies would require that development under the two alternatives be consistent with the General Plan. The DEIR states that for Low Density Alternative and Residential Focus Alternative, the change of land use intensity and density would require amendments to the General Plan. For these reasons, the DEIR contains adequate land use analyses of the two alternatives.

V-18 Most of the eastern portion of the Specific Plan area is located in Subarea 3, and a geotechnical investigation has been performed for Subarea 3. Its conclusions are stated on page 4.3-3 and in Appendix C-1of the DEIR. For areas not previously examined by geotechnical investigations, the range of potential geologic and seismic environmental effects is analyzed under Impacts 4.3-1 through 4.3-10.

CEQA Guidelines § 15152(c) states that "the development of detailed, site-specific information may not be feasible but can be deferred, in many instances, until such time as the lead agency prepares a future environmental document in connection with a project of a more limited geographical scale, as long as deferral does not prevent adequate identification of significant effects of the planning approval at hand." The DEIR states on Page 1-4 that "the City intends to conduct project-level environmental review of individual projects and further, that geotechnical investigations are already required in the Specific Plan area." (Impact 4.3-1.) As noted above, the range of potential geologic and seismic environmental effects is analyzed in the DEIR, and, thus, the identification of significant effects of development within the Specific Plan area has not been deferred. The DEIR analysis of geologic and seismic effects is adequate for the purposes of Specific Plan approval.

V-19 Consistent with CEQA, the DEIR analyzes potential environmental effects of implementing the Specific Plan. The DEIR provides environmental setting information to the extent available and needed to perform adequate analysis. In this case, the impact is uncontrolled soil erosion that could affect the creek. The setting discussion is appropriate of the related mitigation to control erosion so it does not reach the creek. Thus, the DEIR provides information on methods to control contribution of sediments as required by regulatory agencies. The DEIR states that with the implementation of a SWPPP, required by Mitigation Measure 4.3-3, the impact would be less than significant. This conclusion is based on the fact that the SWPPP would entail a series of sediment- and pollutant-control measures, known as Best Management Practices, as well as monitoring measures, the implementation of which has been determined by the San Francisco Bay RWQCB to be in compliance with the federal Clean Water Act. As stated on DEIR Page 4.4-13, the threshold of significance for this impact is based on whether the Specific Plan would result in "the discharge of sediment or contaminants into surface water or wetlands, other adverse changes in surface water quality, or that could result in a violation of water quality standards or waste discharge standards." Since the implementation of the SWPPP is regarded as compliance with the federal Clean Water Act, the DEIR determines that the impact would be less than significant. The commenter does not provide substantial evidence that the implementation of a SWPPP would not mitigate the impact to a less-than-significant level. For this reason, no change to the DEIR is necessary with regard to this issue topic.

When development proposals are submitted to the City, the City will require a site-specific SWPPP, which would specify sediment- and pollutant-control measures and monitoring measures that would best fit the proposed development. Without site-specific information, appropriate sediment- and pollutant-control measures and

monitoring measures cannot be determined. For this reason, the level of specificity in Mitigation Measure 4.3-3 is appropriate for this program-level DEIR.

V-20 DEIR air quality analysis is based on an adequate traffic analysis, which used recent, accurate background traffic counts and appropriate trip generation rates. Please see response to Comments K-1 and L-4.

V-21 Please refer to Impact 4.6-5, Substantial Emissions of Dust and Diesel Exhaust during Construction, for impact analysis of diesel exhaust during the construction phase. See also related Mitigation Measures 4.6-5a,b.

V-22 $PM_{2.5}$ is a subset of PM_{10}, which is analyzed in Impact 4.6-5 in the DEIR. Operational particulate matter, including PM_{10} and $PM_{2.5}$, is analyzed in Impact 4.6-3. New developments within the Specific Plan area would generate an estimated 3 pounds per day of particulate matter, an amount substantially below the standards established by BAAQMD. The DEIR includes analysis of construction-related particulate matter in Impact 4.6-5. Mitigation Measure 4.6-5a would impose the strictest dust-control measures required by BAAQMD. Given these, no further analysis of $PM_{2.5}$ is required.

V-23 BAAQMD states in its *BAAQMD CEQA Guidelines: Assessing the Air Quality Impacts of Project and Plans* that "the District's approach to CEQA analyses of construction impacts is to emphasize implementation of effective and comprehensive control measures rather than detailed quantification of emissions...[and] from the District's perspective, quantification of construction emissions is not necessary" (1999). It also states that "if all of the control measures indicated in Table 2 (as appropriate, depending on the size of the project area) will be implemented, then air pollutant emissions from construction activities would be considered a less than significant impact" (1999). Consistent with the approach, the DEIR states in the discussion for Impact 4.6-5 that the emissions would be substantial during the construction phase and includes in Mitigation Measure 4.6-5a the dust-control measures recommended by BAAQMD. For this reason, the analysis and mitigation for construction-related emissions are adequate.

V-24 Marin County's PM_{10} compliance record is noted (DEIR at Page 4.6-4). Adherence to BAAQMD's CEQA Guidelines and standards would contribute to the county's compliance with State and federal standards. No change to the DEIR is necessary.

V-25 Please refer to Comment P-13. Note also that any project approval would require that the City Council adopt a mitigation monitoring program pursuant to CEQA §21081.6 to ensure compliance with the mitigations.

V-26 As stated in the analysis for Impact 4.6-3, traffic volumes generated by the Specific Plan alone would not cause the exceedance of air quality standards. Instead, the potential violation of air quality standards would be caused by wood-burning stoves and fireplaces, which, under Mitigation Measure 4.6-3, would be prohibited. Because no traffic-related air quality impacts would be significant, no traffic-related mitigation measures, including

demand reduction measures, would be needed. Construction related air quality impacts are addressed in Impacts 4.6-4, 4.6-5, and related mitigation measures.

V-27 These mitigation measures are feasible; however, they are not necessary to reduce the impact to a less-than-significant level. Mitigation Measure 4.6-3 as proposed would be sufficient to reduce the air quality impact to a less-than-significant level.

V-28 The commenter states that noise impacts are underestimated because traffic volumes are underestimated. The analysis in DEIR does not underestimate the existing or Specific Plan-generated traffic volumes. Please refer to responses to Comments V-6 and V-9.

V-29 See response to Comments P-18 and P-19 from Ms. Busse on noise and other issues.

V-30 See responses to Comments A-5 and P-20.

V-31 Impact 4.12-8 of the DEIR evaluates potential interference of the Specific Plan with an adopted Emergency Response or Emergency Evacuation Plan. The Specific Plan would permit typical commercial and residential land uses, which are considered in the Marin County Operational Area Emergency Operations Plan. Therefore, the development of Specific Plan projects would not interfere with the implementation of any adopted emergency response or emergency evacuation plan and this impact is less than significant.

There is no substantial evidence to support the notion that accident response times would be substantially increased. The City determined during its scoping process and through analysis in the DEIR that although the Specific Plan would contribute to traffic in the area, the project would not cause any specific delay in police, fire, or emergency protection response times and, therefore, does not warrant additional study. The related service agencies also did not submit comments on the DEIR.

V-32 As described on page 4.9-5 of the DEIR, significant effects on public services would include those that resulted in "substantial adverse physical impacts associated with the construction or expansion of police facilities." Impact 4.9-3 was determined to be less than significant because the impact of the Specific Plan on the demand for police services does not surpass this threshold. Implementation of the Specific Plan could increase population by up to 264 residents, or 2.2% of the city's population (DEIR Page 4.2-5). This population increase could require additional police officers, support staff, or related equipment to effectively maintain existing service levels and response times, but, on its own, would not necessitate the construction or expansion of police facilities. Furthermore, the Specific Plan area is close proximity to the Twin Cities police station, which is located directly across Doherty Drive, and, thus, additional calls from the Specific Plan area are not expected to adversely affect response time to the Specific Plan area. Therefore, the threshold of significance is not exceeded and the Specific Plan would have a less-than-significant impact with regard to increased demand for police services. As noted in the DEIR, Twin Cities Police Department is constructing a new police station to replace its existing station. This construction project is a planned

reconstruction project rather than the development of a new station for the purpose of serving population growth directly resulting from the Specific Plan. For this reason, this construction effort is not considered a result of the Specific Plan. It is noted that during the public review period for the DEIR, Twin Cities Police Department did not submit a comment letter, as would be expected if the Specific Plan would exceed its capacity to provide adequate services.

V-33 Please refer to response to Comment V-8.

V-34 Contrary to the comment, no new treatment facilities are required for the project. Project developers may be required to upgrade conveyance facilities specific to the project. Please refer to response to Comment L-10.

V-35 Mr. Hogue's statements describe the standards and procedures for the district's review of development projects. As district manager, Mr. Hogue is competent to provide such advice. Please refer to response to Comment L-10 and V-34.

V-36 Although the Specific Plan establishes density ranges for future development, setback requirements, etc., site-specific details for future development projects are largely unknown at this time. The actual development that would occur subsequent to adoption of the Specific Plan would be driven by market forces in effect at the time development projects are proposed; it could include any number of combinations of type, intensity, and density, in compliance with the permitted land use types and development policies contained in the Specific Plan. Therefore, the DEIR analysis of potential degradation of visual character (Impact 4.10-3) is more general in nature than would be conducted for an EIR that focuses on a specific development. Visual simulations or photomontages were not appropriate at this level of analysis because, within the Specific Plan guidelines, any number of development variations could be feasible. Simulations done without project-level design information would be speculative and inappropriate.

As stated in Impact 4.10-3, there are numerous Specific Plan policies and standards related to building design and design elements, storefront downtown standards, building location and height, pedestrian-oriented frontage, neighborhood design, and other elements that would ensure continued protection of the visual quality of the Specific Plan area and the downtown area. It is noted that these policies and standards are consistent with those in the Larkspur Downtown Specific Plan. Because development of the Specific Plan area would be required to conform to these protective policies and standards, the DEIR determines that the visual character of Central Larkspur would not be degraded. However, when specific development is proposed, the City will determine the content and degree of further site-specific environmental review, including visual/aesthetic analysis, and will prepare the appropriate environmental document in accordance with procedures for subsequent environmental review in CEQA Guidelines §15162. The City will then use this program EIR analysis in conjunction with project-specific analysis in its evaluation and decision-making process.

V-37 As stated on page 4.10-11 of the DEIR, a 36-room hotel is one of many possible uses in Specific Plan Subarea 1, including retail and office. The Specific Plan provides a framework for general future development, but does not propose the development of any individual project. Therefore, the potential uses under the Specific Plan are analyzed in a more general fashion than would be conducted for an EIR that focuses on a specific development project, such as a proposed hotel. The City will use this program-level EIR analysis in conjunction with subsequent project-specific analyses of projects proposed for the Specific Plan area in its evaluation and decision-making process. A hotel proposal would be subject to design review by the Planning Commission. If a hotel is proposed, the City will determine the content and degree of further site-specific environmental review, including visual/aesthetic analysis, and will prepare the appropriate environmental document in accordance with the above-referenced procedures in CEQA Guidelines §15162.

V-38 Please see response to Comment V-36.

V-39 As shown in DEIR Table 4.8-7, new development pursuant to the Specific Plan would contribute traffic noise increases of less than 0.5 dBA for all but one of the study roadway segments, which is discussed separately below. The DEIR discloses that some of the study roadway segments already have noise levels that exceed the City's ambient noise standards. However, the fact that the Specific Plan would contribute to existing unacceptable noise levels is not evidence enough to conclude that the contribution is significant. This is affirmed by CEQA Guideline §15064(h)(4), which states that "the mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable." Instead, for noise impacts, the criterion for determining significance in the DEIR is whether the traffic noise contribution is perceptible or not.

Because noise increases of less than 5 dBA are not considered to be audible in terms of community noise perception, the contribution is not considered to be cumulatively considerable, even though some of the noise levels along the study roadways already exceed the City's ambient noise standards. This is affirmed in *Communities for a Better Environment et. al. v. California Resource Agency, 103 Cal. App. 4th 98, 118 (2002)*, in which the court stated that the "one additional molecule rule" is not the law. That is, any additional effect in a nonattainment area for that effect does not necessarily create a significant cumulative impact. Based on the thresholds used to evaluate noise effects, the Specific Plan would not have a significant cumulative environmental effect because the City does not consider increases of less than 5 dBA to be substantial, in accordance with findings of a published federal study (EPA 1971). Because the Specific Plan's contribution to noise levels along all but one roadway segment would not be perceptible, it is not found to be cumulatively considerable.

As mentioned above, the Specific Plan would contribute nearly 4 dBA to one of the study roadway segments, namely Meadowview Drive east of Magnolia Avenue. The traffic noise contribution is generally considered as less than perceptible and is below

what the City considers to be audible. As stated in the DEIR, the noise level along this roadway segment currently is below the City's ambient noise standard and would continue to be below the standard when traffic noise caused by the Specific Plan and other relevant projects are added to the current noise level. Because the Specific Plan's contribution is generally considered to be imperceptible and the City's ambient noise standards would not be exceeded, the DEIR determines that the Specific Plan-generated traffic noise is not cumulatively considerable. The cumulative noise analysis in the DEIR is adequate.

V-40 The BAAQMD CEQA Guidelines for cumulative air quality impacts are described in the DEIR, and were applied to the project analysis. As stated in DEIR, traffic-generated air pollutants associated with the Specific Plan would not exceed the established standards and would, thus, not have a significant impact. (See Impact 4.6-3.) For this reason, and because the Specific Plan does not conflict with the Clean Air Plan, the Specific Plan would result in a less-than-significant cumulative impact associated with traffic-generated air pollutants. Air quality impacts related to construction and wood smoke emissions would be less than significant with the implementation of the mitigation measures in the DEIR. (See Impacts 4.6-3 and 4.6-5.) For this reason, and because the Specific Plan does not conflict with the Clean Air Plan, the Specific Plan would result in a less-than-significant cumulative impact associated with construction and wood smoke emissions. Please also refer to Comment V-24.

V-41 CEQA Guidelines § 15126.2(d) states that an EIR should "discuss the ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth." DEIR Section 5.1 includes discussion of the proposed project's potential to result in direct and indirect growth-inducing impacts, including growth within and outside the Specific Plan area. As a Specific Plan, the objective of the project is to define and plan for the orderly growth of the Specific Plan area in accordance with the City's vision, goals, and policies. As such, the entirety of the DEIR analysis focuses on the indirect effects of growth that could occur with Specific Plan approval.

The discussion of growth-inducing impacts in the DEIR further assesses the potential for the project to induce growth elsewhere in Larkspur and surrounding communities. The immediate vicinity of the Specific Plan area consists of developed urban uses with established infrastructure. The primary obstacle to growth is the lack of vacant and developable land. Because there is no offsite vacant developable land in the immediate vicinity of the Specific Plan area, growth inducement in offsite locations is not expected. With regard to the elimination of the obstacles to growth (i.e., provision of stormwater and sewer infrastructure), the lack of offsite vacant land in the immediate vicinity of the Specific Plan area suggests that infrastructure improvement would not induce growth because surrounding areas are already developed and already served by infrastructure systems and facilities.

V-42 The DEIR states that "the Specific Plan would induce growth within the Specific Plan area, which is already designated for development in the General Plan." This is not considered a plan-to-plan analysis of growth-inducing impacts. As stated in CEQA Guidelines § 15126.2(d), the growth considered in growth-inducing impact analysis comprise "economic or population growth, or the construction of additional housing, either directly or indirectly, *in the surrounding environment*." The DEIR states that the "Specific Plan would not include infrastructure improvement or development that would promote additional growth, in the City, including redevelopment of the surrounding areas." For this reason, rather than the fact that the General Plan designates the Specific Plan area for development, the Specific Plan is not considered growth-inducing.

V-43 The commenter does not offer evidence to suggest that development of the Specific Plan area (i.e., hotel and residential land uses and other uses already permitted by the General Plan) would induce redevelopment of other parcels in downtown Larkspur, including the historic Lark Theater. It is speculative to assume that approval of the Specific Plan would cause the City to approve development that would conflict with the City's General Plan. No change to the DEIR is necessary. See also responses to Comments V-12 and V-16 for discussion regarding the consistency of the Specific Plan with applicable planning documents.

V-44 CEQA Guidelines §15126.6(f) lists criteria for appropriate and feasible alternatives, including avoidance or substantial lessening of any of the significant effects of the project and attainment of most of the basic objectives of the project. As shown in DEIR Table 6-5, both the Low Density Alternative and the Residential Focus Alternative would lessen significant impacts of the Specific Plan as proposed. For this reason, these alternatives are valid.

CEQA Guidelines §15126.6(f)(2)(B) states that "if the lead agency concludes that no feasible alternative locations exist, it must disclose the reasons for this conclusion, and should include the reasons in the EIR. DEIR Page 6-1 states that "alternative locations were not considered because the primary purpose of the Specific Plan is to conduct land use planning for the Specific Plan area in order to allow for future redevelopment." Because an alternative location would not meet the objective of the project, none was considered in the EIR. The DEIR is compliant with CEQA Guidelines, and no further changes to the DEIR are necessary with regard to this issue.

V-45 Please see response to Comment V-44. A range of reasonable alternatives are considered in the DEIR. The Low Density Alternative would reduce the severity of impacts related to traffic and noise. The Residential Focus Alternative would better meet the housing requirements of the City while reducing traffic and noise impacts (but would increase air quality impact). Because these alternatives do result in the reduction of the severity of impacts associated with the Specific Plan as proposed, they constitute a range of reasonable alternatives.

V-46 Please see response to Comment V-45. The commenter refers to the "High Density" Alternative. This response assumes the commenter refers to the "Residential Focus" Alternative. As shown in DEIR Table 6-5, the Residential Focus Alternative would lessen significant impacts of the Specific Plan as proposed. For this reason, this alternative is valid.

V-47 Please refer to the responses to Comment I-9 regarding alternative ways the City can meet its housing goal, and to Comment A-13 regarding the San Quentin Prison property, and to Comment V-44 regarding alternative sites. It is noted that the Sanitary District site has been proposed for a 126-unit housing development and, thus, would not be available for consideration for the proposed Specific Plan.

V-48 The goals of the Specific Plan are described in the DEIR on Page 2-7. The goals are the objectives by which the alternatives are evaluated. Specifically, Goal 3 states that the Specific Plan shall "encourage a range of housing affordability, including housing affordable to very low-, low-, and moderate-income households and senior citizens. Also, Goal 6 states that the Specific Plan shall "provide a clear plan for implementing the community's goals for Central Larkspur Specific Plan area." One of the community's goals, as stated in the Housing Element of the General Plan, is to provide affordable housing.

With regard to the consistency of the alternatives to the project's objectives, the DEIR states that all Specific Plan policies and standards are assumed to remain as proposed for the Low Density Alternative and Residential Focus Alternative. Furthermore, the Specific Plan policies would require that development under the two alternatives be consistent with the General Plan, with the exception of land use intensity and density change, which may be inconsistent with the existing land use diagram. The DEIR states that for Low Density Alternative and Residential Focus Alternative, the change of land use intensity and density would require amendments to the General Plan (see DEIR Pages 6-9 and 6-15). Aside from the change of land use intensity and density, which are key features of the alternatives and which by nature cannot be consistent with the existing General Plan land use diagram, the alternatives would be consistent with the Specific Plan and other applicable plans because alternatives includes the incorporation of the Specific Plan policies and standards. The FEIR incorporates revisions to the DEIR on Page 6-9 and Page 6-6-15 to reiterate the General Plan amendment that may be required in order to implement the alternatives.

Page 6-9, First Paragraph is revised as follows:

This alternative would enable the development of the Specific Plan area at considerably lower residential and commercial densities than anticipated under the Proposed Project, with a higher proportion of detached, single-family homes and less clustering of housing units. Under this alternative, Subarea 1 could support up to 12 multifamily apartment units, including up to six new multifamily apartment units above commercial uses. Subarea 1 could also support 9,900 square feet of new retail development and a

smaller, 20-room hotel. An additional 4,500 square feet of retail development is assumed to be developed in Subarea 2, but no residential units would be developed in this subarea. Subarea 3 would support 45 residential units and a 10,000-square-foot community center. The residential unit mix in this subarea under the Low Density Alternative is composed of 30 large single-family homes, 10 standard single-family homes, five cottage homes, and no multifamily apartment units. All Specific Plan policies and standards are assumed to remain as proposed. All Specific Plan policies and requirements related to the maintenance of adequate creek setbacks, the preservation of historic structures, and the development of parks and a community-oriented open space would remain in force under this alternative. Amendment to the General Plan may be required to allow for the change in land use density and intensity.

Page 6-14, Last Paragraph (continuing to Page 6-15) is revised as follows:

The Residential Focus Alternative would allow development of the Specific Plan area at a higher residential density than would the Proposed Project, with a higher proportion of attached, multifamily homes and greater clustering of housing units (see Table 6-1). Commercial density would be lower. Under the Residential Focus Alternative, Subarea 1 would support up to 44 multifamily apartment units, 12,000 square feet of commercial uses, and a 30-room hotel. Subarea 2 would be redeveloped with 46 multifamily apartment units. Subarea 3 would contain 32 large single-family homes, 11 standard single-family homes, 35 cottage homes, and 27 multifamily units. Similar to the Proposed Project, a community center is not included in this scenario. All Specific Plan related policies and standards are assumed to remain as proposed, and all Specific Plan policies and requirements related to the maintenance of adequate creek setbacks, the preservation of historic structures, and the development of parks and a community-oriented open space would remain in force under this alternative. Amendment to the General Plan may be required to allow for the change in land use density and intensity.

V-49 Please see response to Comment V-48 regarding consistency of the alternatives with planning documents and the General Plan amendments required for the alternatives.

The DEIR analysis for both alternatives clearly states that "[a]mendments to the General Plan land use diagram" would be required. (DEIR page 6-9 and 6-15 under Land Use and Planning.) Consistent with the intent of CEQA to identify alternatives that could reduce the project's significant impacts, the DEIR reviews each alternative for each of the environmental impact categories. In addition to this comparative analysis, the DEIR identifies whether any of the alternatives would avoid the project's significant unavoidable impacts. Thus, the alternatives analysis provides adequate information for CEQA purposes and is not required to provide detailed analysis of each and every general or other planning document goals. Ultimately, the City Council, not the DEIR, determines whether the project and alternatives are consistent with the General Plan and other applicable plans.

V-50 With regard to the maintenance of small-town character, all of the development under the Residential Focus Alternative would have to comply with Specific Plan policies and standards (i.e., limits on building height, landscaped buffer along commercial development, building design, zoning standards, ground-level façades, pedestrian-scale details, materials). For this reason, development in accordance with the Residential Focus Alternative as defined would be consistent with the goals and policies related to community character and visual quality.

Pertaining to traffic effects, the Residential Focus Alternative would generate fewer P.M. peak hour trips than the Specific Plan as proposed (see DEIR Table 6-1). As shown in DEIR Table 6-4, the intersection levels of service would be better in all but two cases under the Residential Focus Alternative than under the Specific Plan as proposed, and the Residential Focus Alternative would result in fewer intersection-level-of-service impacts than the Specific Plan as proposed. With the implementation of the mitigation measures, the traffic impacts associated with the Residential Focus Alternative may be reduced to less-than-significant levels. For this reason, the Residential Focus Alternative is consistent with the Specific Plan and applicable planning documents.

V-51 The "smaller size and reduced traffic impacts" of the Lower Density Alternative would not necessarily result in the Lower Density Alternative being more consistent than the Specific Plan as proposed or the Residential Focus Alternative. This is because plan consistency is not based only on traffic effects and the amount of development. Instead, plan consistency is dependent on whether the proposed Specific Plan or the alternatives would violate the policies and standards of the plans. Please see response to Comment V-17 on discussion of the consistency of the alternative with the General Plan and other applicable planning documents.

V-52 The major characteristics of the alternatives are shown in DEIR Table 6-1, and significant environmental effects are shown in DEIR Table 6-5, in compliance with CEQA Guidelines §15126.6(d). The tables are based on a comprehensive, straight forward discussion of each alternative compared to the project for each impact area.

The commenter is correct in that DEIR Table 6-5 shows that the air quality impacts would be similar for the Specific Plan as proposed and for the Low Density Alternative. The FEIR incorporates the commenter's suggested revision to change to air quality comparisons conclusion from "similar" to "less" for the Low Density Alternative because the Low Density Alternative would result in fewer residential units and lower associated wood stove emissions, as well as lower traffic-related emissions. Nonetheless, with the implementation of the mitigation measures, there would be no significant and unavoidable impacts under the Specific Plan as proposed and under the Low Density Alternative. Similarly, both the project and the Low Density Alternative would have significant and unavoidable cultural resources and traffic impacts if mitigation measures would not be implemented. Thus, the Low Density Alternative would not avoid any

significant and unavoidable impacts. The conclusion of the DEIR that the Low Density Alternative is the environmentally superior alternative remains valid.

Please see the responses to Comments V-48 and V-49 regarding General Plan land use consistency.

The FEIR includes the following revisions to Table 6.5:

Page 6-25, Table 6-5 is revised as follows

Table 6-5
Comparison of Project and Alternatives

Environmental Issues	Specific Plan	Alternatives		
		No Project Alternative	Lower Density Alternative	~~Higher Density~~ Residential Focus Alternative
Land Use and Planning	LTS	Similar	Similar	Similar
Housing and Population	LTS	Similar*	Similar*	Similar
Geology and Soils	PS/LTS	Less	Similar	Similar
Hydrology and Water Quality	PS/LTS	Less	Similar	Similar
Biological Resources	PS/LTS	Less	Similar	Similar
Air Quality	PS/LTS	Less	~~Similar~~Less	Greater
Traffic and Circulation	PS/LTS	Less***	Less	Less**
Noise	PS/LTS	Less	Less	Less
Public Services and Utilities	LTS	Similar	Similar	Similar
Visual Quality and Aesthetics	LTS	Less	Similar	Similar
Historical, Cultural and Archaeological	SU	Less	Similar	Similar
Hazards and Hazardous Materials	PS/LTS	Less	Similar	Similar
Totals				
Greater Impacts		0	0	1
Less Impacts		9	~~2~~3	2
Similar Impacts		3	~~10~~9	9

LTS = Less than Significant Impact (no mitigation required)
PS/LTS = Less than Significant after Mitigation
SU = Significant and Unavoidable Impact (no mitigation available to reduce the impact to a less-than significant level)
* Although not an environmental impact, the No Project and Low Density Alternatives would contribute less to assisting the City in meeting its "fair share" of the regional housing need, and would not add to the supply of housing that might *be* available for those in the local work force.
** May be SU if City chooses not to install signal at Doherty Drive/Piper Park because of low traffic volumes.
*** May be SU if no improvements are implemented at Doherty Drive/Piper Park.

V-53 Please see response to Comments V-4 and V-51 regarding the validity of the alternatives.

CEQA Guidelines §15126.6(b) states that an EIR must include alternatives that "are capable of avoiding or substantially lessening any significant effect of the project, even if these alternatives would impede to some degree the attainment of the project objectives." With regard to the number of significant effects that an alternatives must reduce, CEQA Guidelines §15126.6(c) states that the range of alternatives should include those that "could avoid or substantially lessen one or more of the significant effects." The Low Density Alternative satisfies these criteria in that it would lessen significant impacts in more than one issue area even if it impedes the attainment of the City's affordable housing goal. CEQA Guidelines §15126.6(a) states that an EIR "need not consider every conceivable alternative to a project." For this reason, the Low Density Alternative is a valid alternative, and the DEIR does not need to consider all other alternatives. As noted elsewhere in these responses, an EIR does not eliminate a project or its alternatives. After consideration of the EIR and other information, the City Council decides whether to approve or eliminate a project or its alternatives.

V-54 Please see response to Comment B-10 regarding visual effects, and responses to Comments V-4 and V-17 for consideration of additional alternatives. It is noted that the hotel considered under the Low Density Alternative is limited to 20 rooms.

V-55 Please see responses to Comments V-4, V-17, and V-44 for consideration of additional alternatives. It is noted that the Low Density Alternative contains fewer than 65 residential units, and 7 of these would be multifamily residential units that may be considered affordable housing. The DEIR considered an appropriate range of alternatives; it is not required to consider every possible alternative.

V-56 Please see responses to Comments V-4, V-44, and V-45 for validity of the alternatives and the consideration of additional alternatives. Please see responses to Comments V-12, V-16, and V-48 regarding consistency of the alternatives with planning documents and the General Plan amendments required for the alternatives.

V-57 Please see response to Comment V-5. See also FEIR Section 1.3.

V-58 This comment does not pertain to the DEIR analysis, but comments on the Specific Plan. Therefore, no further response is required. The City notes, however, that the Specific Plan cites to the relevant government code provisions, and includes the distribution, location, extent, and intensity of land uses (Chapter 4); public utilities and essential facilities (Chapter 6); as well as community design (Chapter 7); and implementation provisions (Chapter 8). The detail in the Specific Plan is directly related to and adequate to serve the Specific Plan's stated purpose of providing a framework for future development.

V-59 Please refer to response to Comment V-12.

V-60 Please see response to Comment V-15.

V-61 Mitigation Measure 4.7-3 proposes the installation of a traffic signal at the King/Magnolia Intersection. This mitigation measure is provided to ensure that the intersection operates at an acceptable level of service after implementation of development under the Specific Plan (LOS B during the a.m. peak and LOS C during the p.m. peak). As such, the mitigation measure would increase, rather than decrease, traffic safety. The commenter's concern that the installation of a traffic signal at King Street and Magnolia Avenue (per Mitigation Measure 4.7-3) would result in additional environmental impacts is speculative. For example, the commenter provides no evidence to support the assertion that the traffic signal would draw other motorists from parallel routes and cause significant increases in traffic volumes. See also response to Comment V-15. Furthermore, the DEIR has identified traffic-related air quality and noise impacts as less than significant. Because the mitigation measure would improve intersection LOS, is not expected to increase traffic volume on this roadway segment, and would not increase traffic volume in the study area, it is not expected to cause or exacerbate noise and air quality impacts.

V-62 See response to Comment V-15.

V-63 Please refer to responses to Comments V-5, V-12, and V-15.

V-64 The City has made a good faith effort to consider all comments received on the first DEIR from private citizens, concerned public agencies, and hired consultants, and the City has made revisions to the November 2003 DEIR to reflect the comments received. Based in part on these revisions, the City finds that no significant and unavoidable traffic impacts would occur if all proposed mitigation measures are implemented. The City's traffic engineer reviewed the DEIR. Mr. Brohard's comments and respectfully disagrees with their analyses and conclusions. The following responses reflect his professional judgment and are the City's good faith effort to discuss the points of disagreement per CEQA Guidelines §15151.

V-65 See response to Comment J-4.

V-66 See response to Comment V-9 for discussion of the role of ADT in the traffic analysis. A comparison of intersection peak hour volumes from 2002 and 2003 for the 11 study intersections shows that peak hour traffic has remained relatively constant. The difference in intersection volumes generally fall within a range of ten percent or less. About half the study intersections in 2003 show a volume increase over 2002. The remainder of the intersections show no change or have lower intersection peak hour volumes, which were all within the ten-percent range. A variability of ten percent in relation to intersection volume counts is not unusual on a daily basis or an annual basis within a two-year period. The consistency in peak hour traffic activity can be seen in the turning movement volume illustrations in both the 2002 DEIR and the 2003 DEIR, which uses the 2003 turning movement counts. Intersection peak hour LOS findings for the 2002 DEIR and the 2003 DEIR are also consistent. The ADT field data

recorded is included in the appendices to this document. The counts were reviewed by the City's contract traffic engineer and found to be both reasonable and consistent and are, therefore, appropriate for the DEIR analysis.

V-67 See Appendix F-4 to this document for traffic count.

V-68 See response to Comment V-9 regarding actual traffic counts upon which the DEIR analysis was based. It is outside the scope of the DEIR to speculate on the causes of the traffic volume decrease recorded through valid traffic counts.

V-69 The referenced ITE Shopping Center average vehicle trip rates (daily and peak hours) are based on data collected from shopping centers that averaged over 335,000 square feet of gross leasable area. At buildout, the Specific Plan area would have a maximum of 106,440 square feet of existing and new retail uses. This is substantially smaller than the average size assumed for the Shopping Center (LU 820) rate. The size and type of land use assumed in the Shopping Center trip data makes this rate inappropriate for the purpose of estimating trip generation for the Specific Plan. Land Use Code 814 more closely reflects the kind of retail uses expected to be developed.

V-70 See response to Comment V-69. It is noted that the DEIR uses the P.M. peak hour trips for traffic analysis, rather than ADT or A.M. peak hour trips. See response to Comment I-4. For this reason, the lack of ITE A.M. peak hour trip data for the Specialty Retail land use category does not affect the analysis in the DEIR.

V-71 See response to Comment V-69. The proposed retail uses fits the profile of the Specialty Retail Center category (ITE Trip Generation Specialty Retail Center - Land Use Code 814). Data used to derive the Specialty Retail Center category is based on developments that range between 28,000 to 100,000 square feet. This size and description of the land use (i.e., Yang's Martial Arts and Larkspur Cleaners) is much closer to the 60,000-plus square feet of retail use that would be in Specific Plan Subarea 1 and 2, which are considered together, than the ITE Shopping Center category, the data for which is based on developments that average 350,000 square feet.

V-72 The ITE Trip Generation Manual does not provide AM peak hour commute rates for Specialty Retail Center. The reason is that the activity level would be minimal at this time, since most of the shops would not open until 9:00 AM or later. The ITE Shopping Center AM peak hour average rate was used instead because it is also a retail land use category and would account for employee trip activity. The use of this rate provides a higher-than-anticipated generation rate and thus considered a worst case estimate of project AM peak hour retail use trips. Also see response to Comment V-70.

V-73 The previous use of Shopping Center trip generation rates to describe the proposed project retail element was reviewed by City staff and found to be inappropriate for the estimate of PM peak hour trip generation. According to ITE's land use description for Shopping Center (Land Use Code 820), "a shopping center is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit."

This description is in contrast with the Specific Plan area, which contains disconnected sets of buildings, under separate management, that do not generally share parking spaces. ITE describes Specialty Retail Center (Land Use Code 814) as "small strip shopping centers that contain a variety of retail shops and specializes in quality apparel; hard goods; and services, such as real estate offices, dance studios, florists, and small restaurants" (ITE 1997). It was correctly determined that the ITE Retail Specialty Center rate is a better indicator of what the proposed project would include. In both terms of size (60,000 square feet) and type of retail land use (i.e., Yang's Martial Arts, Larkspur Cleaners, architect's office and small restaurant), the Retail Specialty Center rate is the best fit description of the proposed project. Unfortunately, ITE does not provide AM peak hour trip generation rates for the Retail Specialty Center category. City staff decided to maintain the AM peak hour Shopping Center rate as a reasonable worst-case generation rate for the project. See also response to Comment V-69.

V-74 See response to Comment V-69 also. The average was used for the PM peak hour Specialty Retail Center rate because the proposed project fit well within the size range (28,000 square feet to 105,000 square feet) of the ITE sample projects on which the average was based.

V-75 See response to Comments V-73 and V-74.

V-76 As noted in previous responses, the ITE residential rates were adjusted upward at the behest of the Planning Commission to ensure a worst case analysis. The adjustments were made so that the DEIR reflects a worst case (high) estimate of the project-generated vehicle trips for those homes that would be larger than typical (e.g., homes that are 3,000-plus in square footage). It is noted that, although the residential rates have been adjusted to provide a worst-case analysis, all of the rates fall well within the ITE range of rates that are published for the particular residential land use and the condition (daily, peak hours) under which the rate would apply.

The DEIR uses the standard ITE single-family, detached unit trip generation rate for the Specific Plan's standard-sized homes (i.e., those with less than 3,000 square feet of space). The Contract City Traffic Engineer (see Comment Letter K, pages 1-2) states based on his review of the DEIR that, "The trip rates used in the DEIR are higher than the rates for residential uses." Additional information related to the development of project residential trip generation rates is provided in the responses to Comments I-5, K-1, P-17, Q-18, Q-19, and Q-20.

V-77 The data from the Corte Madera trip generation survey was used for large-size homes (3,000-plus square feet). Using this data for the other smaller-sized residential units would substantially over-estimate the residential trip generation characteristics of the Specific Plan. See response to Comment V-76.

V-78 The rates applied to cottage and multi-family housing units are within the published ITE range of trip generation rates. The DEIR includes adjustments to the average rates, which resulted in an overall higher estimate of vehicle trip generation than if

standard ITE average rates for residential condominiums/townhouse were applied, for the purpose of conducting a reasonable and conservative traffic analysis.

V-79 The errors identified in the DEIR LOS calculations were found to be editorial only and have been corrected in the comment response document (see response to Comment L-18). Editorial errors did not affect the DEIR analysis, conclusions, or mitigation recommendations.

V-80 See response to Comment V-79.

V-81 Comments refer to Mitigation Measure 4.7-2. The comment suggests that further study is needed to assess the removal of up to eight parking spaces at Magnolia Avenue and Ward Street. The DEIR states that any on-street parking removed in order to implement mitigation measures must be replaced in compliance with Specific Plan parking standards. Also see response to Comment A-14.

V-82 The recommended turn bays at this location represent standard measures and would be appropriate for this location. The design of intersection improvements would be implemented under the City's mandated engineering procedures, and with separate City approval. Also see response to Comment I-8.

V-83 The comment suggests that the installation of a traffic signal at Magnolia Avenue/King Street will attract additional traffic to this location because of improved operations and would increase traffic through the downtown. This assertion is speculative. There are no parallel routes to Magnolia Avenue for through traffic. Moreover, a traffic signal would allow for a greater degree of control over peak hour flows. Thus, if additional traffic did attempt to use this route, the City may use the signal as a constraint on through flows. In any case, there is no evidence to support the notion that installation of a traffic signal would result in impacts to public and vehicle safety.

V-84 See responses to Comments A-14, Q-25, and V-81 regarding removal of parking spaces and to allow creation of turn lanes.

V-85 In January of 2004 the City of Corte Madera implemented the proposed mitigation measure of a northbound right turn lane at Tamal Vista/Wornum Drive as an improvement. The northbound right turn lane is operating efficiently and has improved overall peak hour conditions according to Corte Madera Department of Public Works staff.

V-86 The Corte Madera Department of Public Works adjusts traffic signal timing in response to changing traffic patterns throughout the Town of Corte Madera as the need is identified. If the addition of project-generated traffic volumes required a signal adjustment at this location, it would be implemented as a routine matter of traffic operations monitoring on the part of the Corte Madera Department of Public Works (Johnson, pers. comm., 2004).

The State CEQA Guidelines recognize that mitigation measures can be within the responsibility and jurisdiction of a public agency other than the lead agency. In preparation of written findings for significant environmental effects of a proposed project, one of the possible findings is the following:

"Such change or alternatives [to the project which avoid or substantially lessen the significant environmental effect] are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency." (State CEQA Guidelines §15091(a)(2))

V-87 DEIR Table 4.7-14 lists the LOS of the intersections before and after the implementation of the mitigation measures. As shown, the LOS of Tamal Vista/Fifer Avenue would improve from LOS E (delay of 57.1 seconds per vehicle) to LOS C (delay of 21.2 seconds per vehicle) during the P.M. peak hour. The comment includes no evidence supporting its contention that the mitigation is not effective. Also see response to Comment V-86 and DEIR Appendix F-2.

V-88 The intersection of Doherty Drive/Piper Park is estimated to operate at unacceptable LOS D during the A.M. peak hour with or without project-generated traffic volumes under cumulative conditions (see DEIR Table 4.7-13). The intersection fails due to a relatively small number of southbound left turns during the peak hours. Short of a traffic signal, there is no physical mitigation that will improve operating conditions. A reduction in vehicle trips associated with use of the park could result in improved operations. Neither the major or minor street volumes meet the Caltrans signal warrant thresholds. According to the Caltrans Traffic Manual, an intersection of a major street, such as Doherty Drive, with PM peak hour volume of 1,392 trips (Existing plus Cumulative plus Specific Plan scenario) would require the intersecting minor street, such as Piper Park, have more than 100 PM peak hour trips before a signal is warranted (Caltrans 1992). The DEIR traffic modeling estimated that the PM peak hour traffic volume from Piper Park would 32 trips, which is below the ITE threshold. Safety concerns can also justify signalization; however, the published rate of four injury accidents on Doherty Drive in 2003 would not qualify this location under that warrant. Ultimately the City will decide what measures to implement at the Piper Park driveway on Doherty Drive. The DEIR identifies the impacts and mitigation measures associated with the contribution of traffic volumes generated by the Specific Plan to this intersection; for this reason, the DEIR analysis for this intersection is adequate.

V-89 The DEIR for the Specific Plan is a program-level environmental analysis, and so it is not meaningful to develop mitigation costs or implementation phasing. The DEIR provides the percent contribution of project traffic to intersections with unacceptable LOS. As development projects within the Specific Plan are proposed and approved, fair-share costs and implementation schedules will be developed between the City and project applicants. Approved project-specific mitigation measures will be included in a mitigation monitoring program (MMP), pursuant to CEQA §21081.6, which shall be

designed to ensure compliance during project implementation. Elements of the MMP will include the adopted measures, timing and duration of implementation, and responsible party.

V-90 Roadway segment analysis is not required because analysis of intersections would be an adequate and far more sensitive measure of traffic impacts in the study area. By identifying the worst-case intersection impacts, the DEIR has also addressed roadway capacities. There are no CMA roadways in the project area that would require roadway segment analysis.

V-91 The Specific Plan would allow for the construction of a comprehensive network of pedestrian and bicycle routes, including connections to regional routes. A primary stated project goal is to ensure that the Specific Plan area is to be integrated and linked to the downtown in ways that encourage alternate modes of transportation. The transportation impact analysis of the DEIR focused on a worst-case analysis which assessed the potential impact of vehicle trips on the surrounding street network. (see DEIR, page 2-23.) Also see response to Comment J-16. The DEIR includes adequate program-level analysis of alternative modes of transportation.

V-92 Transit service is described in detail in the DEIR on Pages 4.7-12 and 4.7-13. The Specific Plan area is located in close proximity to a number of Golden Gate Transit bus routes. Bus stops are located at Ward Street on Magnolia Avenue and on Doherty Drive in the vicinity of the Specific Plan area. The Specific Plan would generate 256 PM peak hour trips. According to the Metropolitan Transportation Commission, the ratio of transit riders to vehicular drivers and passengers in the Bay Area is approximately 1:17 (MTC 1999). Based on this ratio, the Specific Plan is conservatively estimated to generate approximately 20 PM peak hour trips. Golden Gate Bridge, Highway and Transportation District estimated that additional bus capacity may be required if the Specific Plan would generate more than 40 bus trips during the peak hour, consisting of 20 local bus trips plus 20 transbay bus trips (Zahradnik, pers. comm., 2004). For this reason, new developments within the Specific Plan area are not expected to require transit service expansion.

V-93 See responses to Comments 64 through 92.

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W

February 12, 2004

Mr. Robert Pendoley, Project Manager
Planning Department
City of Larkspur
400 Magnolia Ave.
Larkspur, CA 94939

VIA FACSIMILE: 415-927-5022

Re: Comments on Revised Draft EIR, Central Larkspur Specific Plan

Dear Mr. Pendoley:

Please accept these comments on the Revised Draft Environmental Impact Report (DEIR) for the Central Larkspur Specific Plan (CLASP) on behalf of the Animal Protection Institute and In Defense of Animals and our more than 1,000 members in Marin County.

We were pleased to see that the City of Larkspur took our previous comments into consideration and subsequently redid the Draft EIR. While the revised DEIR is an improvement, it still fails to mitigate potential impacts in many areas of the plan within the biological resources section. We will detail our specific concerns below. W-1

I. THE DEIR FAILS TO PROVIDE ADEQUATE MITIGATIONS FOR POTENTIAL HARM TO LARKSPUR CREEK AND ITS SENSITIVE NATIVE BIOLOGICAL RESOURCES

The mitigation measures proposed to abate negative impacts to Larkspur Creek (Section 4.5-2: Effects on Larkspur Creek) are inadequate. The DEIR acknowledges the impacts could be "potentially significant" and yet fails to provide adequate mitigation measures. The proposed buffers include a 50-foot buffer at the eastern edge of the Specific Plan area and a 25-foot set back at the southern edge of the Specific Plan. Such proposed buffers are inadequate and do not provide adequate mitigation for potential impacts on water quality, tidal vegetation, and sensitive biological resources associated with Larkspur Creek. The creek supports salt and brackish marsh habitat considered sensitive by the California Department of Fish and Game; as such extra protections should be implemented that ensure protection of such precious and finite resources. We recommend that a 100-foot set back be implemented to ensure adequate protection for Larkspur Creek and its surrounding environs. A 100-foot set back is a common set back distance for developments around sensitive biological resource areas. Such a setback would also ensure that additional cumulative impacts identified in the DEIR (including an increase in the human population and urbanization) on Larkspur Creek would be mitigated. W-2 W-3

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II. THE DEIR HAS FAILED TO PROVIDE ADEQUATE MITIGATIONS FOR POTENTIAL HARM TO SPECIES OF SPECIAL CONCERN

The DEIR mentions that eight special-status species have been recorded in the vicinity of the Specific Plan area but fails to adequately assess the potential impact on these species (Section 4.5-3). Parcel 7 includes salt marsh-type vegetation known to support special status animal species, including three state and federally listed species: the California clapper rail, the California black rail and the salt-marsh harvest mouse. The DEIR claims, "these species are not expected to occur in the Specific Plan area." However, the DEIR then goes on to say that consulting ecologist Diane Renshaw states that it is possible that these species may occur along the Larkspur Creek area. The DEIR concludes that the proposed plan would have "less than significant" impact on these species of special concern and therefore provides no mitigation measures. W-4

The DEIR does not reconcile the contradiction inherent in the acknowledgement that sensitive habitat appropriate for special status species exists within the Specific Plan and the conclusion that no species of special status exist within the Specific Plan area. The DEIR must consider that if adequate habitat exists to support special status species, such species may attempt to inhabit the area in the future. Adequate mitigation measures must be included to ensure that such habitat is not degraded.

III. THE DEIR HAS NOT ADEQUATELY CONSIDERED THE IMPACT OF THE PROPOSED SPECIFIC PLAN ON "COMMON" NATIVE WILDLIFE AND WILDLIFE MOVEMENT AND HAS PROPOSED NO ADEQUATE ACTIONS TO MITIGATE THESE IMPACTS

The DEIR states that development within the Specific Plan area will limit movement of black-tailed deer and other wildlife species found within the Specific Plan area (Section 4.5-5). The DEIR further states that development of Subarea 3 would eliminate much of the existing open space and thus restrict opportunities for wildlife movement across upland portions of the subarea, but then goes on to say that "this impact would only affect species that are considered common in Marin County." W-5

The DEIR fails to detail: 1) where and how "common" wildlife would move to offsite locations; 2) how far these locations are from the current species-specific habitats; 3) what obstacles deer and other "common" native wildlife would face moving to this new habitat (i.e. roads, development, etc.); and 4) possible safety hazards that may result from dispersal as displaced deer and other wildlife species seek alternative habitats and mitigation measures that may be employed to reduce deer/car collisions such as reduced speed limits in identified potential dispersal zones. W-6

The DEIR states that there would be no significant impact on the movement of native wildlife; however, this is unsubstantiated by the evidence. In fact, the only documentation provided to support this claim is the statement that "residents in nearby areas" have seen that development does not restrict the movement of deer and other mammals. W-7

The DEIR has failed to consider the impacts of roads, construction, and other development on wildlife habitat and food sources in the area. W-8

The DEIR has failed to consider the impact on resident wildlife and the safety of drivers that may result from the removal of the fence on Doherty Drive that currently protects animals from cars, dogs and other hazards. W-9

The DEIR offers no evidence to support the claim that the proposed set back of 25 feet (and 50 feet in other areas of the Specific Plan) from the creek mitigates against the impacts of development on the movement of wildlife through the area. W-10

With regard to impacts on potential wildlife corridors, the DEIR states:

"Although animals are seen moving through the Specific Plan area, it does not represent a wildlife corridor, and development under the Specific Plan would not substantially interfere with any formally-identified wildlife corridor." (Page 6-7)

The DEIR fails to define what constitutes a "wildlife corridor" and what agency, if any, would "formally-identify" it as such. W-11

Subarea 3 is known to be habitat for native deer, skunks, opossums, raccoons, and other mammals. If animals are regularly seen moving through the area, how can it not be a wildlife corridor?

IV. CONCLUSION:

Larkspur Creek and areas within Subarea 3 of the Specific Plan are known to contain sensitive biological resources and provide habitat to a variety of native species, including black-tailed deer, skunk, raccoons, opossums, and other animals. The dense brush along the creek is also known to be a resting and nursery site for black tail deer and other wildlife species. Larkspur Creek is also potential habitat for state and federally listed endangered species. W-12

The final EIR should include more accurate and detailed documentation about the potential impacts of development of the Specific Plan Area on native wildlife, wildlife habitat, and special status species in the area, as well as more adequate mitigations to these impacts. These mitigations should include at a minimum: W-13

- A 100-foot set back from Larkspur Creek for any development. The setback area should exclude pedestrian and bike paths to allow adequate undisturbed habitat for native wildlife. W-14
- Wetland enhancement projects to mitigate inevitable wetland degradation that will likely occur from development and to enhance habitat for threatened and endangered species known to occur in the area. W-15

- Lowered speed limits on all roads determined to be potential dispersal corridors for native deer and other wildlife that will be forced to migrate to other open space areas because of development in the Specific Plan area. W-16

- Maintenance and possible expansion of the fence on Doherty Drive to ensure adequate protection of native wildlife from cars, dogs, and other hazards. Such fencing will also ensure the safety of people by reducing deer/vehicle collisions that could prove to be a liability for the city. W-17

To meet is mandate under CEQA, the City of Larkspur must include adequate mitigation measures within the Central Larkspur Specific Plan Revised DEIR to protect species of special concern and reduce impacts of the proposed plan on native wildlife, vegetation, and other sensitive biological resources. The current Revised DEIR fails to accomplish this. We look forward to receiving a response to our specific concerns and reviewing the final EIR upon publication. Feel free to contact us if there are any questions regarding our comments. W-18

Sincerely,

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4

W-1 Responses to the commenters concerns are provided in the responses to Comments W-2 through W-18, below.

W-2 Please refer to responses to Comments U-1 and U-3.

W-3 As presented on DEIR Page 4.5-22, sensitive habitat associated with Larkspur Creek, which could be affected under cumulative as well as project conditions, shall be protected by new policies described in Mitigation Measure 4.5-2a, b. As described in responses to Comments U-1 and U-3, this mitigation is sufficient to reduce effects of the Specific Plan to Larkspur Creek to a less-than-significant level.

W-4 As stated under Impact 4.5-3 in the DEIR, three separate habitat evaluations determined that adequate habitat that would support state or federally listed species does not exist in the Specific Plan area. The only special-status species that may inhabit the Specific Plan area are two species of special concern, which are salt marsh common yellow throat and San Pablo song sparrow. As stated in Impact 4.5-3, project development would not significantly reduce the amount of potential nesting or foraging habitat for these two species. Therefore, the development of the Specific Plan area would have a less-than-significant impact and no mitigation is required.

W-5 It is acknowledged in Impact 4.5-1 that the development in the Specific Plan area would adversely affect common wildlife species, but that the impact would not substantially reduce the population of any plant or wildlife species. Therefore, the less-than-significant impact determination is accurate.

W-6 It would be speculative to estimate where, how, and the distance to which wildlife would relocate. Section 4.5.1 of the DEIR states that the local setting surrounding the Specific Plan includes roads, schools, residences and other urban development. The analysis provided in Impact 4.5-3 of the DEIR acknowledges that although some wildlife displaced by the proposed project would be expected to successfully relocate, some mortality would also be expected. This mortality would be related to the surrounding environment, including roads, schools, residences and other urban development. Despite this potential for mortality, the DEIR concludes that the Specific Plan developments would not substantially reduce the population of any plant or wildlife species. Therefore, the Specific Plan would have a less-than-significant impact and no mitigation is required.

Deer currently exist in the Specific Plan area and are not obstructed from venturing onto surrounding roadways. By removing habitat for the deer, the Specific Plan would reduce the population of deer moving through the area and the associated potential for collision with automobiles. As such, the Specific Plan is not expected to result in an adverse impact with regard to this issue. Section 15126.4(a)(3) of the CEQA Guidelines

states that, "mitigation measures are not required for effects which are not found to be significant." Impact 4.5-1, Loss of Habitat for Common Plan and Wildlife Species, is less than significant. Therefore, no mitigation measures are required.

W-7 Please refer to response to Comments P-12, W-5, and W-6.

W-8 Impacts 4.5-1 through 4.5-5 of the DEIR analyze the impact of the proposed Specific Plan on biological resources, including habitat for common plant and wildlife species, Larkspur Creek, and terrestrial and aquatic special status species.

W-9 Please refer to response to Comment W-6.

W-10 Please refer to responses to Comments V-5 and W-6.

W-11 There are a variety of definitions of a wildlife corridor. However, a wildlife corridor is generally considered to be a strip or block of habitat that allows for the movement of wildlife between otherwise isolated units of suitable habitats. As explained in Impact 4.5-5, Effects on Fish and Wildlife Movement, the Specific Plan area does not provide linkages between areas of important wildlife habitat or any recognized migratory corridors. In addition, Subareas 1 and 2 are developed with urban uses. Subarea 3 is surrounded by existing development and much of it is fenced.

W-12 Section 4.5.1 of the DEIR describes the biological resources in and around the Specific Plan area, including sensitive biological resources. As explained in Section 4.5.1, due to the absence of suitable habitat, no state or federally listed special-status plants or wildlife are expected in the Specific Plan area.

W-13 Section 4.5 of the DEIR provides full disclosure of biological resource setting information, impact analysis, conclusions and mitigation measures to allow the City to make an informed decision in determining whether to approve the Specific Plan. Mitigation is provided as necessary to reduce Impact 4.5-2, Effects on Larkspur Creek, to a less-than-significant level. No mitigation measures are required for Impacts 4.5-1, 4.5-3, 4.5-4 and 4.5-5 because they are found to be less than significant, in compliance with CEQA Guidelines 15126.4(a)(3).

W-14 Please refer to response to Comments U-1 and U-3.

W-15 The only wetland or other waters of the United States, as defined by United States Army Corps of Engineers, in the Specific Plan area is Larkspur Creek. The potential direct and indirect impacts of the Specific Plan on Larkspur Creek are reduced to a less-than-significant level by implementation of Mitigation Measure 4.5-2a, b.

W-16 Please refer to response to Comment W-6.

W-17 Please refer to response to Comment W-6.

W-18 Please refer to response to Comment W-13.

X

a community of learners

Larkspur School District

February 12, 2004

Mr. Robert Pendoley
Consulting Planner for the City of Larkspur
City of Larkspur
400 Magnolia Avenue
Larkspur, CA 94939

Dear Mr. Pendoley,

The Larkspur School District (the District) has over the past many years worked successfully with the City of Larkspur with mutually beneficial results on a variety of projects from the Multi-Use Gymnasium and Playfield project to the many activities coordinated by the Larkspur Recreation Department which benefit our students. This open channel of communication, mutual cooperation and team work has fostered a standard by which both parties approach issues. When the "Revised Draft Environmental Impact Report - Central Larkspur Specific Plan" prepared by EDAW and dated 11/14/03 and the "Draft – Central Larkspur Specific Plan – Planning Commission Draft" dated 11/03 were publicly issued by the City of Larkspur, the District met with the City of Larkspur and you, Mr. Pendoley, to review the District's concerns and work together on how to proactively direct the District's review comments into this Revised Draft EIR response letter. The District is confident that the following issues identified by the District as having a direct impact on the safety of the students and the functioning of the LSD's facilities will be taken into consideration and addressed in earnest by the City of Larkspur. These issues have been separated into two comment categories; California Environmental Quality Act (CEQA) Comments in response to the Revised Draft EIR and CLSP Policy Comments in response to the Central Larkspur Specific Plan. X-1

ENROLLMENT

1) CEQA Comment –The EIR (pg 4.9-12) identifies the CLSP would generate 76 additional students.

   The Revised Draft EIR Table 4.9.1 identifies the capacity of Neil Cummins Elementary as being 701. This figure fails to take into account the enrollment cap of 20 students per grade for grades K-3 mandated by the State in order to receive Class Size Reduction Program funding and therefore overstates the enrollment capacity of Neil Cummins Elementary School. Average class size for grades 3-5 is 24. There are 34 classrooms at Neil Cummins available for regular classroom instruction, 23 of these are K-3, therefore, Neil Cummins is currently at or very near capacity. Enrollment at Neil Cummins in 1998 was 620, in 1999 was 619, in 2000 was 628, in 2001 was 618, in 2002 was 641 and in 2003 is 647. Neil Cummins gained 27 students from 2001 to 2003 (two classrooms). 2003-04 State funding per pupil for 'class size reduction' is $906.00. The X-2

District has two options when enrollment increases: 1) it must hire additional teachers or, 2) it must forgo the state funding for class size reduction, which is an unacceptable alternative. In either case, additional enrollment is a financial hardship for the District. X-2 Cont'd

Likewise, the Revised Draft EIR Table 4.9.1 identifies the capacity of Hall Middle School as being 391. The Draft EIR overstates Hall's capacity. There are 19 classrooms available for regular classroom instruction at Hall Middle School and the average class size for grades is 24. Enrollment at Hall Middle School in 1998 was 328, in 1999 was 321, in 2000 was 303, in 2001 was 308, in 2002 was 311 and in 2003 is 347. From 2002 to 2003 Hall Middle School gained 36 students (two classrooms). With an average class size of 24, Hall Middle School has exceeded capacity and could not accept the additional 50 students (not including the 29 students the Revised Draft EIR identifies as being generated from neighboring developments) identified in Revised Draft EIR Table 4.9-2 "Student Generation per Residential Unit" without expansion of the existing school facilities. X-3

TRAFFIC AND PARKING

1) CEQA Comment - Currently Doherty Drive is overused and cannot accommodate the volume of traffic generated. The District is concerned that addition of 132 housing units and up to 143,700 sq. ft. of office space identified in the CLSP Table 4.1 "Land Use Allowance" will worsen the existing 20-25 minute backup traffic time along Doherty Drive during peak hours and poses a safety concern for it's students. The District does not believe that the EIR mitigates increased traffic volume along Doherty. X-4

Section 4.7-5 of the Revised Draft EIR identifies that an ADT traffic count was taken in May 2003 at only one location along Doherty Drive adjacent to Hall Middle School. It should be noted here that this count revealed that the weekday traffic along Doherty Dr. had increased by 4% since 1999. This location does not address the volume of traffic related to the Redwood High School complex and Larkspur Landing. The District requests that ADT traffic counts be done at Riviera Circle and at the intersection of Lucky Drive and Doherty Drive so that a more accurate assessment of volume along the entire length of Doherty Drive is known. X-5

Table 4.7-7 "Summary of Daily and Peak Hour Specific Plan New Vehicle Trips at Maximum Land Use Intensity" identifies only 51.1,000 (46.6 + 4.5 units/1000 sf.) square feet of "retail". Table 4.1 "Land Use Allowance" of the CLSP totals "commercial/mixed use" from 105,414 to 143,700 square feet. Table 4.7-7 does not account for the traffic generated by up to 92.6,000 sf of potential "retail". The District is concerned not only about the nuimber of new vehicle trips generated by a new development but the timing of these trips as well. The District strongly supports consideration of senior housing on this site as one way to mitigate the number of peak hour trips along Doherty Drive and Magnolia Avenue. Seniors are generally more able to plan vehicle trips around non-peak hours and would therefore be a more suitable fit in helping address traffic concerns in an area that already suffers from severe traffic congestion even before the addition of a new development. X-6

2) CLSP Policy Comment - CLSP Table 5-1 "Central Larkspur Specific Plan Parking Standards" identifies parking for multifamily units and the cottage homes, which are 1 and 1.2 spaces per unit respectively. If these cottage units can be upward of 2000 sf, 4-6 people could live comfortably in a unit which means there could be parking needs of 3 X-7

cars per unit. The City of San Rafaël requires 1.5 parking spaces per 1 bedroom and 2 per 2 bedrooms. Hall Middle School Parking is currently at capacity. Additionally, the Hall parking lot is regularly utilized as overflow parking for both Piper Park activities and Police Station employee, visitor and police vehicle parking. The District believes that the parking standards identified in CLSP Table 5-1 are not sufficient. The District is also in support of increasing the number of units specifically set aside for senior housing, both market rate and affordable, as a method of reducing the volume of traffic and number of parking spaces required. X-7 Cont'd

3) CLSP Policy Comment - The CLSP identifies the possibility of a library in lieu of Public Parking in Sub-Area 1. In Sub-Area 3 (the residential PUD area of the Central Larkspur Specific Plan (CLSP)) the CLSP states that a Public Parking Lot would be permitted with access from Ward Ave. The District believes that these existing 28 city public parking spaces displaced by a new library should be required, rather than permitted, and that they be accounted for separately from those required for development as identified in CLSP Table 5-1 "Central Larkspur Specific Plan Parking Standards". X-8

4) CLSP Policy Comment – With Mixed use development, the CLSP allows for a 20% reduction in the number of required parking space identified in CLSP Table 5-1 "Central Larkspur Specific Plan Parking Standards". The District does not support the adoption of this policy. X-9

5) CLSP Policy Comment – The CLSP identifies that 'one side' street parking is to be provided with this plan. At issue here is that it is not known how many linear feet of roadway will be built as part of this project, hence, the parking count yield cannot be ascertained. The District requests that this policy be quantified with at least a minimum number of street parking spaces being identified; such as one street parking space per residential unit. X-10

6) CEQA Comment - Two roadways from the Niven Sub-Area 3 will enter and exit onto and from Doherty Drive. The roadway entrance onto Doherty across from Larkspur Plaza is planned to have a traffic signal and reroute traffic through the Hall Middle School Campus to Larkspur Plaza Drive. This intersection has been identified to require a traffic signal for mitigation of traffic volume. The District is concerned that this traffic signal is too close to the Magnolia Avenue intersection and that traffic will back up in all four directions, not allowing cars to enter and exit easily from the Albertsons parking lot and the gas station, which creates a student safety issue with children crossing the path of travel. This problem cannot be mitigated by "timing" of the traffic signal because of the volume of traffic during peak hours, and the disruption of that timing by students and other visitors to Hall who will seek to cross the street at that intersection. X-11 The District is also concerned about the cost of mitigation at Hall Middle School. Who will pay for removal and landscape of the vacated roads identified in Figure 5-3 "New Doherty Drive/Larkspur Plaza Drive Intersection"? X-12

7) CEQA Comment - The Revised Draft EIR Section 4.7.3 "Level of Significance After Mitigation" identifies that the CLSP would have no significant impacts on traffic and circulation if; 1) A traffic signal at Doherty Drive/Riviera Circle/Redwood High were installed, 2) Street parking were removed and southbound and westbound left turn lanes were added at East Ward Street/Magnolia Ave., 3) A traffic signal at King Street/Magnolia Ave. were installed, 4) A detailed Construction Traffic Control Plan were prepared and implemented, 5) The traffic signals at Fifer Ave/Tamal Vista Blvd. X-13

were optimized and coordinated 6) the northbound approach provides dedicated right turn and through lanes at Wornum Drive and Tamal Vista Blvd., and 7) A traffic signal at Doherty Drive/Piper Park were installed. The District has concern that these mitigation measures would not reduce traffic volume but rather increase travel time, because, ultimately the CLSP adds traffic to Doherty Drive and all of these steps serve to 'chop up" the traffic flow. Why has daytime traffic increased 4% over the last four years along Doherty Drive as identified in Table 4.7-1 "Summary and Comparison of Average Daily Traffic Volumes"? When did the Madera del Presidio development bring their units on the market? What mitigation measures were required with this development and were they enforced? Further, parking is reduced with the removal of street parking at Ward St./Magnolia Ave. Where will this displaced street parking be relocated? Once again, the nature of the proposed development would generate traffic during peak hours, when Doherty Drive is already severely overcrowded. What steps are proposed to mitigate this peak traffic flow and encourage travel during non-peak hours? X-13 Con't X-14 X-15 X-16 X-17

8) CLSP Policy Comment – CLSP Figure 5-2 "Doherty Drive Section" eliminates the pedestrian way and identifies a 9'-6" Class 1 bikeway for Phase III of the Doherty Drive improvements. It does not identify a pedestrian way. Impact 4.7-5 in the Revised Draft EIR identifies that this Class 1 bikeway is to be integrated for pedestrians and bikers. The District does not support this shared bike/pedestrian way for safety reasons; we request separation of the bikeway from the pedestrian way. X-18

9) CLSP Policy Comment – It is unclear how this 9'-6" Class I bikeway on the south side of Doherty Drive will connect to the 4'-0" wide Class II directional street bikeways on both the North and South sides of Doherty Drive at the intersects with the Redwood High School entrance that were built as part of Increment I & II of the Doherty Drive improvement. Please clarify. X-19

10) CLSP Policy Comment – A Class I Bikeway is identified in Figure 7-19 "Illustrative Plan for Doherty Drive/Larkspur Plaza Drive Intersection Showing Recommended Design Treatments" extending from the intersection and continuing east. This figure does not show this Class I bikeway extending west or connecting to Magnolia Ave. The current Doherty Drive entrance from Albertsons extends approximately 50' wide between the Union 76 Station and the Baskin Robbins where multiple cars line up together to pull in, out, right and left while at the same time coordinate with pedestrians & bicyclists. The District is concerned for student safety. Bikeway travel should be consistent through the entire Specific Plan Area (see CLSP Figure 2-1 "Central Larkspur Specific Plan Boundaries"). The District supports a bikeway extending to Magnolia Ave., connecting bike traffic from either direction on Magnolia to the bikeway at the Larkspur Plaza intersection and the creation of a driveway with crosswalk at the Doherty Drive Albertsons entrance. The District also requests the police accident history for this Albertsons entrance area. Currently, up to 150 students ride their bikes to school each day. The District is concerned that adequate provision be made for both bike and pedestrian traffic crossing Doherty Drive to access the middle school and that the number and location of these crosswalks be optimally sited in the areas natural to the flow of this traffic. Middle school children will take the easiest available path of travel, it is therefore very important that the crosswalk improvements be sited in locations that accommodate this logical flow. The District also requests that adequate provision for pedestrian and bike paths be made through the proposed development to accommodate students traveling to school from the Heather Gardens and Meadowwood neighborhoods and from Corte Madera via the High Canal bridge and multi-use path. X-20 X-21 X-22

This planning should also require that the current path of travel around the Sloat Garden Center property will be maintained. X-22 Cont'd

UTILITIES, SOILS AND GROUNDWATER

1) CLSP Policy Comment – The CLSP page 6-3 identifies that the majority of the water from Subarea 3 will drain through a 42" storm line into the bay adjacent to the Hall Middle School Campus. Doherty Drive currently floods with the bay movement on a high tide, heavy rain day. The addition of hard surface run-off from 16 acres would lengthen the duration of flooding. Are the CLSP page 6-4, Policy 9, Standards 2, 3 & 4 for Storm Drainage Facilities Design more or less stringent than 25 Year Flood design standards? X-23 The District requests to be involved in the actual design of the detention/retention swales and that they be designed and maintained so as not to become mosquito producing stagnant swales where most often no landscaping remains. X-24

2) CLSP Policy Comment – CLSP 6-2 "Utilities Policies and Standards – Sanitary Sewer" identifies that there is sufficient capacity at Sanitary District #1 – Ross Valley treatment station to serve the maximum development permitted by the Plan but that the existing sewer lines across Subarea 3 will have to be re-routed off-site, a 10" main will have to be replaced and the pump station will have to be upgraded. The District is installing a new artificial turf playing field this summer over the existing Sanitary District #1 outflow line on the Hall campus and requests an alternate route for replacement piping and requests involvement as to where the pipe will be re-routed off-site so not to impact the District's facilities and/or property, as well as confirmation when the actual development is designed that the sanitary sewers are sufficient to support the District's facilities and be fully operational with continual service. X-25

3) CLSP Policy Comment – CLSP 6-2 "Utilities Policies and Standards - Water" identifies that there is sufficient water to serve the maximum development permitted by the Plan. The District requests confirmation when the actual development is designed that the water flow pressure is sufficient to support the District's facilities. The District also requests that the Larkspur Fire Department verify and assure that adequate fireflow will be maintained to the fire hydrants located on the campus. X-26

4) CLSP Policy Comment – It is unclear how the site will be graded. Extensive infill may potentially surcharge the soil causing differential settlement in the area. Grading and compaction may also change the routing of the underground water sources. Both of these issues may affect Hall Middle School. The District requests that a Crack Survey be performed on the Hall Middle School parking lot prior to development. The District also requests confirmation that the actual design related to the Niven property soil and ground water issues will not have adverse soil surcharge or ground water flow change that will affect the LSD facilities and/or property. X-27

LAND USE

1) CLSP Policy Comment – CLSP Policy 28 "Housing Types". The CLSP states that the city will purchase 1.5 acres for affordable housing, consisting of 27 very-low, low & moderate-income housing, 40%-50% of these units shall be senior housing. The District requests that, to the extent possible under the law, affordable housing units included in the proposed development that are not reserved for seniors should be set aside for X-28

teachers, police officers, firefighters and other public employees. The District also supports an increase in the proportional number of units specifically set aside for senior housing, both market rate and affordable, as a method of reducing the volume of peak travel time traffic and the number of parking spaces required. X-28 Cont'd

2) CLSP Policy Comment – The District is in support of Policy 31 "Standards for Residential Development", Standard 14 "Standard for Locally Employed Persons" however, request that this policy be quantified. Who authorizes or regulates the priority given to locally employed persons? Again, the District requests that, to the extent allowed by law, priority for non-senior housing be given to teachers and other local public employees. X-29

3) CLSP Policy Comment – CLSP Land Use Policy 35. "Public Park, Land Use" states that public park shall be provided. The only park space specifically identified in the CLSP is that in Policy 19. "Doherty Park to be Retained" and in the Revised Draft EIR 4.9.1, "Environmental Setting, Parks and Recreational Facilities", which is a small sliver of land (9674 square feet) bordering busy Magnolia Avenue and adjacent to the Union 76 gas station; a visual park at best. This may be considered a "park" for technical planning purposes but, at most, it serves as a visual buffer between Magnolia Avenue and the shopping center. It provides little or no recreational use to Larkspur residents. CLSP "Appendix B – General Plan Amendment". The CLSP states that a public park 'shall be permitted' rather than required for Subarea 3. The General Plan states that the Niven Nursery includes parkland and that a neighborhood park is planned for the Niven Nursery site. The District requests that the Niven Nursery parkland requirements be minimally quantified. The CLSP local community is under-serviced with recreational amenities such as an indoor recreation center and currently uses both the Hall Middle School and Redwood High School facilities as well as Piper Park. The District supports additional parkland and more specifically, an indoor recreation facility that would service the community during inclement weather and those not involved in field sport. X-30

4) CLSP Policy Comment – CLSP Land Use Policy 33, Standard 16 identifies that development can occur 25' away from the Larkspur Creek. The District supports a separation along Doherty Drive as with either an actual fence or dense, high growth landscaping to separate the residential use group both visually but also from the noise generated from the Hall Middle School. X-31

The Larkspur School District is confident that these review comments will be taken into consideration and addressed in earnest by the City of Larkspur. We believe the cooperative spirit in which we have worked will create a better project for everyone.

Sincerely,

Jeff Winkler
Director of Business Services
Larkspur School District

X-1 The City acknowledges the successful working relationship with Larkspur School District. Please refer to responses to comments, below.

X-2 Based on the information provided in Comment X-2, Neil Cummins Elementary School has a total of 34 classrooms with capacity for 724 students, based on 23 K–3 classrooms with 20 students per room (capacity for 460 students) and 11 classrooms for grades 3–5 with an average of 24 students per room (capacity for 264 students). The comment states that enrollment at Neil Cummins School in 2003 was 647 students, so the school would have sufficient capacity for an additional 77 students. According to Larkspur School District, 2004–2005 enrollment is 654 students for Neil Cummins Elementary School. With 37 classrooms that hold a minimum of 20 students each (Winkler, pers. comm., 2004), the school would have capacity for 740 students. Thus, the school has capacity for additional 86 students during the 2004–2005 school year. The residential development permitted within the Specific Plan area would generate approximately 50 new K-8 students (DEIR Page 4.9-6). Therefore, Neil Cummins Elementary School would have sufficient capacity to accommodate new students from proposed residential development. Furthermore, Larkspur School District currently owns and leases San Clemente School to a private school. It has given notice to end the lease and would have additional capacity at lease termination; thus, Larkspur School District would have additional capacity to accommodate new students should there be a need, which is being determined in a demographic study the Larkspur School District has initiated. Based on this new data provided by the Larkspur School District, as well as the new information provided by the District in Comment X-3, Table 4.9-1 and text on Page 4.9-6 are revised (see below).

Although Neil Cummins Elementary School currently has sufficient capacity for additional students, additional enrollment is a financial hardship on the District. However, developers of projects pursuant to the Specific Plan would pay developer fees to the Larkspur School District (and Tamalpais Union High School District) as required by State law. Schools in California are funded primarily by state funding through voter-approved bond measures and fees paid by property developers to the local school districts. Voter-approved bond measures fund up to 50% of the cost of new construction. Developer fees typically fund less than 50% of the cost of new facilities.

Page 4.9-1, Table 4.9-1 is revised as follows:

Table 4.9-1 School Capacity and Enrollment, 2002-2003 School Year				
School	Grades	Enrollment	Capacity	Difference
Neil Cummins Elementary School	K-5	~~634*~~ 647*	~~701*~~ 724*	~~-60~~ -77
Henry C. Hall Middle School	6-8	~~316*~~ 347*	~~391*~~ 456*	~~-75~~ -109
Redwood High School	9-12	1,446	1,900	-454
*School district-estimated capacity numbers. Sources: Toukonen, pers. comm., 2003; Winkler, ~~pers. comm., 2003~~ Comment Letter, February 12, 2004				

Page 4.9-6, Second full paragraph:

~~The Larkspur School District estimated that an additional 60 students would be able to attend Neil Cummins Elementary School and 75 students would be able to attend Hall Middle School (Winkler, pers. comm., 2003)~~ As shown in Table 4.9-1, Neil Cummins Elementary School has capacity for additional 77 students and Henry C. Hall Middle School has capacity for additional 109 students. As shown in Table 4.9-2, the maximum residential development permitted in the Specific Plan area is anticipated to add up to 50 elementary and middle school students. The resulting enrollment would be less than the estimated student capacity, and no new school facilities would be required in order to serve the development that would be in the Specific Plan area. The Larkspur School District is currently conducting a demographic study to assess whether its existing facilities are sufficient to accommodated projected increases in enrollment. It has given notice to end the lease of San Clemente School, which the Larkspur School District currently owns and leases to a private school. With the end of the lease, Larkspur School District would have additional capacity to accommodate new students. No newly constructed school facilities would be needed to serve new development in the Specific Plan area. Therefore, no physical impacts associated with the construction or expansion of school facilities in the Larkspur School District would occur as a result of development under the Specific Plan.

X-3 Based on the data provided by Larkspur School District in Comment X-3, Hall Middle School has 19 classrooms, and the average class size is 24 students. Therefore, the school has a total capacity of 456 students. The commenter states that enrollment at Hall Middle School in 2003 was 347 students, which would mean that the school has sufficient capacity for an additional 109 students. The residential development permitted with the Specific Plan area would generate approximately 50 new K-8 students. Hall Middle School would have sufficient capacity to accommodate new students from proposed residential development.

Based on this new information from the Larkspur School District, as well as the new information provided by the District in Comment X-2, Table 4.9-1 is revised in response to Comment X-2.

Although Hall Middle School has sufficient capacity for additional students, additional enrollment is a financial hardship on the District. As explained in response to Comment X-2, developers of projects pursuant to the Specific Plan would pay developer fees to the Larkspur School District (and Tamalpais Union High Schools District) as required by State Law.

X-4 In the afternoon, congestion at the high school spikes for approximately 20 minutes as students depart the area. The afternoon background commute period begins to build starting at 4:00 PM and peaks typically between 5:00 PM and 6:00 PM. Doherty Drive is designed as a two-lane arterial connecting the downtown to the freeway. The design capacity of this roadway is approximately 1,700 vehicles per hour. The practical capacity of Doherty Road is less when factors such as pedestrian crossings, parked vehicles, free flow speeds, traffic signals, driveway cuts, and other criteria are considered. The practical carrying capacity based on HCM 2000 criteria is estimated at about 1,400 vehicles per hour. Also see response to Comment J-2.

X-5 See response to Comment J-3. There is no methodology for the analysis of ADT and none is required for traffic analysis. The focus of the DEIR traffic analysis is peak hour operations, for which the DEIR provides a thorough assessment of traffic in and around the middle school and the Specific Plan area.

X-6 The comments regarding the Specific Plan and support for senior housing are noted. See response to Comment J-4.

X-7 The comments regarding City of San Rafael parking requirements and the support for senior housing are noted. See response to Comment J-5.

X-8 See response to Comment B-1.

X-9 Comment noted. This comment pertains to a Specific Plan policy and not to the DEIR analysis. No response is required.

X-10 See response to Comment J-9.

X-11 The new signal would be coordinated to work in concert with the existing signal and would be timed to give precedence to and adequate crossing times for pedestrians and bicyclists during peak periods of use. The signal would also provide a manual override for pedestrians and bicyclists for use during non-peak times. The design and signalization of this intersection can only be carried forward under mandated engineering and legal procedures of the City, which uses the *Caltrans Highway Design*

Manual. It is expected to enhance both safety and circulation for pedestrians, bicyclists and vehicles, in compliance with City standards. Also see response to Comment J-10.

X-12 Identification of funding sources is beyond the scope of the EIR. No response is required.

X-13 See response to Comment J-12.

X-14 See response to Comment J-13.

X-15 See response to Comment J-14.

X-16 See response to Comment J-15.

X-17 Primarily, peak hour trips are associated with travel to and from work, or to school in the AM peak period. A shift of peak hour trips would be accomplished by a shift in typical work and school hours. This type of change to work and school hours would need to be implemented on a large scale in order to have a measurable effect on peak hour traffic patterns. Because of the difficulty of establishing region-wide shift in work and school hours, this measure is not considered feasible for the purposes of the DEIR traffic analysis and is not included in the DEIR.

See also response to Comment J-12.

X-18 See response to Comment J-16.

X-19 The comment does not pertain to the adequacy of the DEIR. No further response is necessary. See also response to Comment J-17.

X-20 This comment pertains to the Specific Plan, not to the DEIR analysis, and no response is necessary. It is noted however that, as shown in Specific Plan Figure 5-1, the bike path turns south at Larkspur Plaza Drive and connects to Magnolia not at Doherty but via the former railroad right-of-way. See also responses to Comments J-10 and J-18.

X-21 The comment does not pertain to the adequacy of the DEIR, and no response is necessary. It is noted that the Specific Plan does not include policies pertaining to crosswalks or bikeway access to Hall Middle School. However, all crosswalks constructed on Doherty Drive would comply with the *Caltrans Highway Design Manual.*

X-22 The comment does not pertain to the adequacy of the DEIR. No further response is necessary. However, it is noted that Specific Plan Figure 5 depicts pedestrian paths and combined pedestrian and bicycle paths passing through Subarea 3 and connecting to the existing multi-use path that follows the former railroad right-of-way. The City will consider this comment in deliberations on the merit of the Specific Plan.

X-23 The stormwater drainage facilities would be designed to meet the City's standards, which currently require design for the 25-year storm event at a minimum. As stated in

the analysis for Impact 4.4-2, much of the Specific Plan area is already developed, and the additional development proposed in the Specific Plan area is unlikely to significantly increase runoff. As such, development in accordance with the Specific Plan is not expected to exacerbate the existing inundation of Doherty Drive during flood events. For this reason, Impact 4.4-2 is less than significant.

X-24 The City appreciates the District's interest in the Specific Plan and supports the District's continued involvement in Specific Plan project review through the CEQA and project approval processes. The District's request is noted.

X-25 The District's request is noted. No further response is necessary.

X-26 Please see response to Comment J-21.

X-27 Please refer to Comment J-22. The City encourages further cooperation with and the involvement of the School District in future development projects in the Specific Plan area. In addition to the participation opportunities afforded by the CEQA and project approval processes, the City intends to maintain communication with the School District when development proposals for the Specific Plan area are submitted to the City.

X-28 Comment noted.

X-29 Please refer to response to Comment J-25.

X-30 Please refer to response to Comment J-26.

X-31 Standard 57 provides noise mitigation elements, which also would provide visual separation, by locating habitable residential units a minimum of 70 feet from the south curb face of Doherty Drive and utilizing garages, masonry, stucco, or architecturally finished concrete walls between Doherty Drive and the residences. Standards 58 and 59 provide for retaining the existing *Liquidamber sp.* trees on the south side of Doherty Drive (or replacing trees removed to accommodate the Class 1 bikeway) and planting a uniformly spaced row of *Liquidamber sp.* trees along the north side of Doherty Drive adjacent to the south edge of Hall Middle School so as to mirror the trees on the south side of Doherty Drive. The residential setback, the bikeway, and the *Liquidamber sp.* trees on either side of the road would provide visual separation between the residences and Hall Middle School.

Fencing and vegetative buffer may be components of noise-reduction measures recommended by acoustical evaluations, as required by Mitigation Measure 4.8-1. The actual noise reduction measures to be implemented would be determined when development proposals are submitted and site-specific acoustical evaluations are performed. The City welcomes the continued involvement of Larkspur School District with the development of the Specific Plan area.

Y

MARIN COUNTY
CONGESTION MANAGEMENT AGENCY

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February 12, 2004

Robert Pendoley, Project Manager-Planning Department
400 Magnolia Avenue
Larkspur, CA 94939

RE: Revised Draft Environmental Impact Report-Central Larkspur Specific Plan

Dear Mr. Pendoley:

In response to your Notice of Extension of Public Review Period for the above reference, The Marin Congestion Management Agency (CMA) has the following comment. The site use the CMA last modeled was shown as:

- 183,517 square feet of retail space estimated to generate 413 PM peak hour trips.

The current proposal is for:

- 85 dwellings (single family, cottage, townhouses of which 27 are to be low to moderate income affordable) estimated top generate 94 PM peak Hour trips, Y-1
- 0.9 acres of park estimated to generate 0.5 PM peak hour trips, and
- 125,928 square feet of retail space estimated to generate 283 PM peak hour trips.

Since the proposed use is estimated to generate 377 PM peak hour trips which is 36 PM peak hour trips less than the projected use in the model, and within 100 PM peak hour trips of the previously expected uses, the

Congestion Management Agency (CMA) does not require analysis of the impacts of the change through the countywide travel demand model. Y-1 Cont'd

Thanks for keeping us in the loop regarding this project.

Very truly yours,

Art Brook
Deputy Director

cc: Farhad Mansourian, Director
Craig Tackabery, Assistant Director
Dean Powell, Principal Transportation Planner
Tho Do, Associate Engineer

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Y-1 Comment noted. The proposed project would not conflict with the countywide travel demand model. No further analysis is required.

Z

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February 12, 2004

VIA FACSIMILE (415) 927-5022 AND MAIL

Chair Ratner and Members of the Larkspur Planning Commission
Mr. Robert Pendoley, Consulting Planner
City of Larkspur
400 Magnolia Ave.
Larkspur, CA 94939

Re: Comments on Revised Draft EIR for Central Larkspur Specific Plan

Honorable Commissioners and Mr. Pendoley

These comments, along with those of Cecilia B. Bridges, are submitted on behalf of Larskpur Housing Partners with regard to the above-referenced Draft EIR (the "DEIR"). These comments supplement those of Ms. Bridges.

The DEIR identifies the potential for significant impacts to Historical, Cultural and Archaeological Resources. Specifically, Impact 4.11-2 identifies the potential for damage to or destruction of portions of Native American prehistoric site CA-MRN-68, mapped in 1907 by N.C. Nelson (the "Shellmound"). The concern is that "[c]onstruction-related activities, including excavation, trenching, or grading, may damage or destroy portions of this site[.]" (DEIR, p. 4.11-8.)

Z-1

The DEIR further states that the "shellmound as discovered by Nelson had been substantially leveled by agricultural uses of the land, and had been scattered over the landscape and into the marsh to the north and east of the original homestead at the site." (DEIR, p. 4.11-3.) It concludes that "actual intact midden areas could exist in areas covered by pavement in and around the original location....and perhaps buried under the floors of the standing greenhouses." (*Id.*) These observations are based on a 1995 report by Miley Holman of Holman & Associates.

Similarly, William Self of William Self Associates reported after a 1999 site reconnaissance survey that no culturally significant midden deposits were found, but concluded that a "possibility remained that a portion of the shell midden from [the Shellmound] might be intact below the ground surface." (DEIR, p. 4.11-4.) The DEIR consultants assessed the results of a 1998 geotechnical survey by Harza Engineering Company and concluded, after noting that although soil borings taken during that survey were not intended to assess the presence or

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absence of culturally significant midden deposits, that the site is covered with 4 to 9 feet of fill, and "[i]f subsurface cultural materials exist, they are most likely capped by fill." (*Id.*) Finally, the DEIR consultants observe that intact midden deposits (which may or may not be archaeologically significant) "may well extend beneath existing structures." (DEIR, p. 4.11-5.)

To mitigate the potential impacts to unknown, but possibly significant, subsurface archeological resources, the DEIR proposes two mitigation policies. (DEIR, pp. 3-32, 3-33, 4.11-10, 4.11-11.) The first (mitigation 4.11-2(a)) requires that an "archaeological subsurface testing program to delineate and define the elements of [the Shellmound] shall be implemented before the beginning of construction." If the testing program results in a determination that the Shellmound site is potentially eligible for listing on the NRHP or the CRHR, "then destruction of the this site must be avoided."

Comment: It is clear from the DEIR that it is uncertain whether any archaeologically significant resources associated with the Shellmound remain at the site. It is also clear that, in the event that any archaeologically significant resource does remain at the site, its boundaries have not yet been defined. Finally, the DEIR makes it clear that any potentially significant archaeological resource that may exist at the site is buried by pavement, under existing greenhouses and/or beneath 4 to 9 feet of fill material. The DEIR consultant recommends that the "testing program" required by mitigation measure 4.11-2(a) be designed to, and that it should be intended to "refine information regarding [the Shellmound's] spatial extent, content, and NRHP or CRHR eligibility." (DEIR, p. 4.11-5.) Please clarify that the "testing program" required by mitigation measure 4.11-2(a) will, in accordance with the consultant's recommendation, be designed to first make a threshold determination of whether *any* archaeologically significant midden remains at the site and, if so, will then proceed with delineating the boundaries of the Shellmound, with each step being undertaken in accordance with the NRHP or CRHR eligibility requirements. To the extent intact midden deposits do not meet applicable eligibility criteria, their disturbance does not amount to a significant impact. Likewise, disturbance of midden deposits outside of any area delineated to contain an archaeologically significant resource under applicable eligibility criteria does not amount to a significant impact. Z-1 Cont'd

Comment: Mitigation measure 4.11-2(a) requires that the testing program be implemented "before the beginning of construction." Due to the presence of paved areas, greenhouses and other existing structures, and 4 to 9 feet of fill on the site, and due to the likelihood that these things cover any potentially significant resource, the testing program cannot be feasibly implemented until the greenhouses and other structures are demolished and access to the subsurface is thereby created. Please clarify that "before the beginning of construction" does not mean before demolition permits are issued which would provide for access to subsurface areas needed for the "testing program." Because the DEIR concludes that the identified impact may arise from "construction related activities, including excavation, trenching or grading" (DEIR, p. 4.11-8), a well-designed demolition plan will not have the potential to cause impacts to the resource (if it exists). Z-2

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Comment: The text of the DEIR recites that "more extensive testing" will "take place before the Final EIR is completed[.]" (DEIR, p. 4.11-5.) This statement is inconsistent with mitigation measure 4.11-2(a) and the remaining text and analysis set forth in the DEIR. Please harmonize the text to clarify that the "more extensive testing" will be the "testing program" specifically required by mitigation measure 4.11-2(a), and will take place "before the beginning of construction[,]" but after the Final EIR is completed and approved. Z-3

Comment: Mitigation measure 4.11-2(a) requires that, in the event the Shellmound is determined to be potentially eligible for listing on the NRHP or CRHR, "destruction of the site must be avoided." Please clarify that the mitigation measure contemplates that the area within the delineated boundary of the archaeologically significant remains of the Shellmound (if it exists) would be "preserved in place or left in an undisturbed state[,]" as set forth in Public Resources Code section 21083.2(c). (*See also* Pub. Resources Code, § 21083.2(b) [if a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to preserve it in place or leave it in an undisturbed state, including capping it].) Ordinarily, Native American observers are strongly interested in "capping" shellmounds to help insure that they are not disturbed. This could involve a paved cap, such as a parking area or even a building, or a soil cap, such as a park, yard or open area. Please also clarify that "destruction of this site" would encompass its excavation and/or removal, which "must be avoided." (*See* Pub. Resources Code, § 21083.2(d) [excavation as mitigation *shall* be restricted to those parts of the unique archaeological resource that would be damaged or destroyed by the project].) An appropriate "cap" will preserve, and not damage or destroy, any archaeologically significant resource that is found to exist at the site. Z-4

Comment: Mitigation measure 4.11-2(b) provides that, in the event archaeological resources are uncovered within the Specific Plan area during construction, there will be no further excavation or disturbance of the site or any nearby area until the archaeologist has evaluated the find and an appropriate site-specific mitigation has been identified (and presumably implemented). Please clarify that the "site" referenced is not the entire Specific Plan area, but, rather, the precise site of the find and any nearby area the archaeologist determines might be significantly impacted by ongoing construction. Ongoing construction in areas of the Specific Plan not implicated by the find should be allowed. (*See e.g.*, Pub. Resources Code, § 21083.2(i).) Please also clarify that the consulting archaeologist should recommend, where feasible and appropriate, the protection and preservation of the resource in place by way of an appropriate "cap." Z-5

Comment: The DEIR's cumulative impact analysis of the Shellmound concludes that "[t]he Specific Plan, as currently designed, would result in the loss of [the Shellmound]," and that this is a "significant and unavoidable impact." This statement should be clarified to indicate: (1) it is not certain at this time whether the Shellmound remains an archaeologically significant resource; (2) if the Shellmound is determined to be archaeologically significant after implementation of the "testing program," the Council has adopted and imposed mitigation measures that may very well preserve the Shellmound in place and not result in its loss or destruction; and (3) in the event the Z-6

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Shellmound is found to be archaeologically significant, and in the event the imposed mitigation measures do not mitigate the project's impacts to levels of insignificance, only then will the project's impacts be significant and unavoidable.

Z-6 Cont'd

Thank you in advance for considering and responding to these comments and requests for clarification.

Very truly yours,

MILLER, STARR & REGALIA

Christian M. Carrigan

CMC:cmc

cc: Planning Director Nancy Kaufman
Cecilia Bridges, Esq.
Lee Newell
Steve Seely

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Z-1 Because a prehistoric site, CA-MRN-68, was identified within the Specific Plan area, the potential Specific Plan impact on archaeological resources is assumed to be significant until subsurface testing is completed to delineate and define the elements of archaeological resources on the site. If the subsurface testing required by Mitigation Measure 4.11-2(a) of the DEIR determines that there are no eligible archaeological resources on the project site, then the Specific Plan would have a less-than-significant impact on archaeological resources and further mitigation would not be required.

Z-2 See response to Comment Q-27. The subsurface archaeological testing required by Mitigation for Impact 4.11-2a could occur before or after demolition permits are issued for structures in Subarea 3. As long as subsurface testing is performed prior to excavation activities required for remediation and development, there would be opportunity to avoid or minimize damage or destruction of the archaeological resources. For this reason, Mitigation Measure 4.11-2a is revised, as shown below:

Page 4.11-10, Mitigation Measure 4.11-2a is revised as follows:

Impact 4.11-2a, b mitigation

Potential Damage to or Destruction of Archaeological Resources.

(a) Implement Archaeological Testing Program

The City shall include the following new policy in the Specific Plan.

New Policy: An archaeological subsurface testing program to delineate and define the elements of CA-MRN-68 shall be implemented before the beginning of ~~construction~~ excavation activities or other activities that may disturb the resources. The archaeologist will make a preliminary assessment of NRHP and CRHR eligibility based on the results of the testing. If CA-MRN-68 is found to be potentially eligible for listing, then destruction of this site must be avoided.

Z-3 Please refer to response to Comment Q-27.

Z-4 Measures to avoid destruction of archaeological resources identified as eligible by subsurface testing required under Mitigation Measure 4.11-2a would be consistent with CEQA §21083.2(b) and could include site avoidance, capping, or some combination of similar methods as determined by the archaeologist.

Z-5 The commentor is correct that construction activity could occur. In response, the text New Policy under Mitigation Measure 4.11-2(b) is revised as follows:

Page 4.11-11, First Paragraph, Second Sentence is revised as follows:

In the event that any archaeological resources are uncovered within the Specific Plan area during future remediation or construction activity associated with the implementation of the Specific Plan, there shall be no further excavation or disturbance of the archaeological site or any nearby area until the archaeologist has evaluated the find and appropriate site-specific mitigation has been identified ~~to protect, preserve, remove, or restore the artifacts uncovered~~ consistent with CEQA §21083.2(b)(3) or (4).

Z-6 The FEIR incorporates the suggested clarification, which is consistent with the finding in Table 3-1 for Impact 4.11-2.

Page 4.11-12, Last Paragraph is revised as follows:

Following implementation of the above mitigation measures, Impacts ~~4.11-2 and~~ 4.11-3 would remain significant and unavoidable. Following implementation of the above mitigation measures, Impacts 4.11-2 would remain significant and unavoidable if archaeological resources are found in the subsurface testing program, and destruction of the archaeological resources cannot be avoided. Otherwise Impact 4.11-2 would be less than significant with the implementation of the mitigation measure. If human remains are found during construction, and development of the site cannot be avoided, then Impact 4.11-5 would also remain significant and unavoidable. These impacts would also constitute a considerable contribution to cumulative cultural resources impacts.

Please also refer to responses to Comments Q-27 and Z-1.

STOEL RIVES LLP
A combination with Washburn, Briscoe & McCarthy

AA

ANNE E. MUDGE
Direct (415) 617-8908
aemudge@stoel.com

February 12, 2004

VIA FACSIMILE AND MAIL

Robert Pendoley, Project Manager
Planning Department
City of Larkspur
400 Magnolia Avenue
Larkspur, California 94939

Re: Response of the Niven Family to Notice of Preparation of the Draft Environmental Impact Report for the Central Larkspur Specific Plan

Dear Mr. Pendoley:

Thank you for providing us with the opportunity to comment on the Draft Environmental Impact Report for the Central Larkspur Specific Plan ("DEIR"). On behalf of the Niven Family, an owner of property within the Plan area, we submit these comments to suggest some minor changes to the DEIR to ensure consistency with the standards for the preservation of historic and cultural resources and the California Environmental Quality Act ("CEQA").

Specifically, the primary issues we would like to highlight are the mitigation measures required for historical, cultural, and archaeological resources. As presently written, such measures are inconsistent with standard survey techniques and procedures for the preservation of historic and cultural properties. AA-1

As noted in the DEIR, intact portions of prehistoric site CA-MRN-68 (consisting of shell midden) have been identified within the Specific Plan area, and construction related activities, including excavation, trenching, or grading may damage portions of this site, as well as other potential unknown archaeological resources contained in the Specific Plan area. (4.11-8.) To mitigate this impact, the City proposes, in part, mitigation measure 4.11-2a (4.11-10), which imposes a subsurface testing program prior to construction. The EIR also states that more extensive testing will take place before the Final EIR is completed to refine information regarding spatial extent, content, and NRHP or CRHR eligibility of the deposits. (4.11-5.) Taken together, these two sections seem to imply that subsurface testing will be done before completion of the Final EIR. Not only is this physically impossible, as buildings now cover portions of the site to be tested, but subsurface testing at that time would be counter to standard

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protocol for the treatment of potential historic properties. As such, we recommend that core sampling of the area that may contain CA-MRN-68 be conducted after demolition of structures surrounding the mound has occurred to assess the nature and extent of this resource, and that no subsurface testing of any kind be conducted prior to demolition of the structures. This would ensure consistency with both CEQA and standard survey techniques and procedures. AA-1 Cont'd

Under CEQA, public agencies should, whenever feasible, seek to avoid damaging effects on any historical resource. CEQA Guidelines § 15126.4(b)(3). Because of this, preservation in place is the preferred manner of mitigating impacts to archaeological sites. CEQA Guidelines § 15126.4(b)(3)(A). If structures are currently covering an archaeological site, that site is being preserved in place, and no further action is needed. Once structures are removed, however, a potential archaeological site may properly be tested using standard techniques, such as core sampling, to evaluate the site's potential as a historical resource. Invasive techniques, such as excavation, should be avoided because they have the potential to damage historical resources.

Due to this fact, CEQA contains no requirement for subsurface testing of any kind. In fact, the standard and most commonly employed mitigation measures for impacts to archaeological resources do not include subsurface testing at all, but rather, include construction monitoring. For example, in *Topanga Association for a Scenic Community v. County of Los Angeles* (1989) 214 Cal.App.3d 1348, 1358-59, the court upheld the following mitigation measure for archaeological resources:

> The developer is required to have a qualified archaeologist at the project during grading and infrastructure construction; to assist on-site monitoring the archaeologist is to conduct a field survey prior to grading and the field survey report is to be reviewed by a responsible archaeological center prior to grading; the developer is further required to suspend construction in the vicinity of any cultural resource encountered during development of the project site and to leave the resource in place until a qualified archaeologist can examine it and determine appropriate mitigation measures; finally, the developer is required to comply with mitigation measures recommended by the archaeologist and approved by the department.

AA-2

The Secretary of the Interior has also set forth standards and guidelines to provide technical advice about archaeological and historic preservation activities and methods in several publications. One such publication, entitled "Guidelines for Local Surveys: A Basis For

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Preservation Planning," states that the extent to which subsurface excavations can be conducted on a site is dependent on the distribution of buildings, streets, utilities, and other modern features overlying the area of interest. When the area is covered by such features, as it is in this case, subsurface testing should not be performed.

Mitigation Measure 4.11-2 also does not define what subsurface testing entails. To the extent a subsurface testing program would require remote sensing techniques, such a program would not be a standard measure for the identification and evaluation of archaeological resources under the "Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines." Rather, as these Guidelines point out, remote sensing subsurface survey techniques are "special survey techniques" and should be used in certain situations, as needed. This mitigation measure should more specifically define a standard technique for the surveying of archaeological resources, such as core sampling.

In order to harmonize the EIR with both CEQA and standard protocol for surveying and preserving archaeological and historical resources, the City should strike the following sentence from the EIR, contained at 4.11-5: "More extensive testing, to be done by Holman & Associates at the request of the City, will take place before the Final EIR is completed to refine information regarding spatial extent, content, and NRHP or CRHR eligibility of the deposits." By removing any reference to additional testing prior to completion of the Final EIR, the City may ensure that archaeological resources are preserved in place, and not damaged by unnecessary testing, as per the CEQA Guidelines. AA-2 Cont'd

The City should also amend Mitigation Measure 4.11-2a to read:

> "(a) **Implement Archaeological Testing Program**
>
> The City shall include the following new policy in the Specific Plan.
>
> **New Policy**: A core sampling program to delineate and define the elements of CA-MRN-68 shall be implemented upon the removal of all structures designated for removal by the developer's final plans. The archaeologist will make a preliminary assessment of NRHP or CRHR eligibility based on the results of the testing. If CA-MRN-68 is found to be potentially eligible for listing, then mitigation measures in accordance with CEQA Guidelines § 15126.4(b)(3)(B) shall be implemented."

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This mitigation measure is consistent with Section 15126.4(b)(3) of the CEQA Guidelines, which seeks to avoid damaging effects on historical resources. The measure, combined with Mitigation Measure 4.11-2b, would ensure impacts to cultural resources would be less than significant, by requiring appropriate study, handling and recordation of such resources if they are found on the project site during construction. The proposed mitigation measure would eliminate any extraneous or premature testing of the Project area, yet still afford the same level of protection to archaeological resources as under the present version of the DEIR. Finally, this measure defines a non-invasive technique for the testing of archaeological resources, consistent with the CEQA Guidelines. AA-2 Cont'd AA-3

Thank you very much for taking the time to consider our comments.

Very truly yours,

Anne E. Mudge

AEM:raa
cc: Cyndi Niven (via fax)
Alan Bear (via fax)
Stephen Seely, Larkspur Housing Partners LLC

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AA-1 Please refer to response to Comment Z-2.

AA-2 The FEIR incorporates the recommended text addition and deletion. Please refer to responses to Comments Q-27, Z-2, and Z-4. The suggested mitigation measure would result in the same action as the existing Mitigation Measure 4.11-2a, as revised, in this document. Because the revised Mitigation Measure 4.11-2a would allow for the use of standard techniques as defined by the qualified archaeologist and approved by the City, including core sampling, and would comply with established requirements, it is adequate. The suggested mitigation measure would not reduce the severity of the impact, and, therefore, the suggested change is not necessary.

Page 4.11-11, First Paragraph, Second Sentence is revised as follows:

In the event that any archaeological resources are uncovered within the Specific Plan area during future remediation or construction activity associated with the implementation of the Specific Plan, there shall be no further excavation or disturbance of the archaeological site or any nearby area until the archaeologist has evaluated the find and appropriate site-specific mitigation has been identified ~~to protect, preserve, remove, or restore the artifacts uncovered~~ consistent with CEQA §21083.2(b)(3) or (4) and CEQA Guidelines §15126.4(b)(3)(B).

AA-3 If archaeological resources are found in the subsurface testing program, and destruction of the archaeological resources cannot be avoided (i.e., if the archaeological resource covers a large portion of the Specific Plan area, making avoidance or capping of the coverage area infeasible), Impact 4.11-2 would be considered significant and unavoidable. If the subsurface testing required by Mitigation Measure 4.11-2a,b determines that there are no eligible archaeological resources on the project site, then the Specific Plan would have a less-than-significant impact on archaeological resources. Please also see response to Comment AA-2.

RB&L

BB

February 13, 2004

Via Fax 415-927-5022

Mr. Robert Pendoley
City of Larkspur
400 Magnolia Ave
Larkspur, Ca. 94939

Re: Environmental Impact Report Comments – Central Larkspur Area Specific Plan (CLASP)

Dear Mr. Pendoley,

I am writing to comment on the above referenced environmental impact report. We suggest that the analysis of the planning alternatives in the EIR include housing above the Albertson's store. We recommend that the ratio be fourteen (14) units per acre. BB-1

If you have any questions or comments please don't hesitate to contact me at 415-981-3600 xt 317.

Yours truly,

Timothy C. Noel
Director of Asset Management
Rawson Blum & Company

BB-1 Based on the policies and standards of the Specific Plan as proposed, housing may be developed above the Albertsons store. Development that may be allowed under the Specific Plan is analyzed in the DEIR. No changes to the DEIR are necessary.

CC

Edy O. Sennhauser
642 Riviera Circle
Larkspur, CA 94939

Feb. 13, 2004

Robert Pendoley, Project Manager
Planning Department
City of Larkspur
400 Magnolia Ave.
Larkspur, CA 94939

Re: Revised Draft EIR
Central Larkspur Specific Plan

It appears that the EIR does not address two issues which are of major concerns.

1. Hydrology

The plan is silent regarding erosion material being washed down Larkspur Creek and deposited in front of Larkspur Marina property owners (also orange traffic cones, most likely from Larkspur's utility yard at the police station, washed down as shown on the enclosed photographs taken in Dec. 2003 – and they are still there). To prevent erosion deposits and their costly removal **siltation basins** should be installed upstream from the police station. CC-1

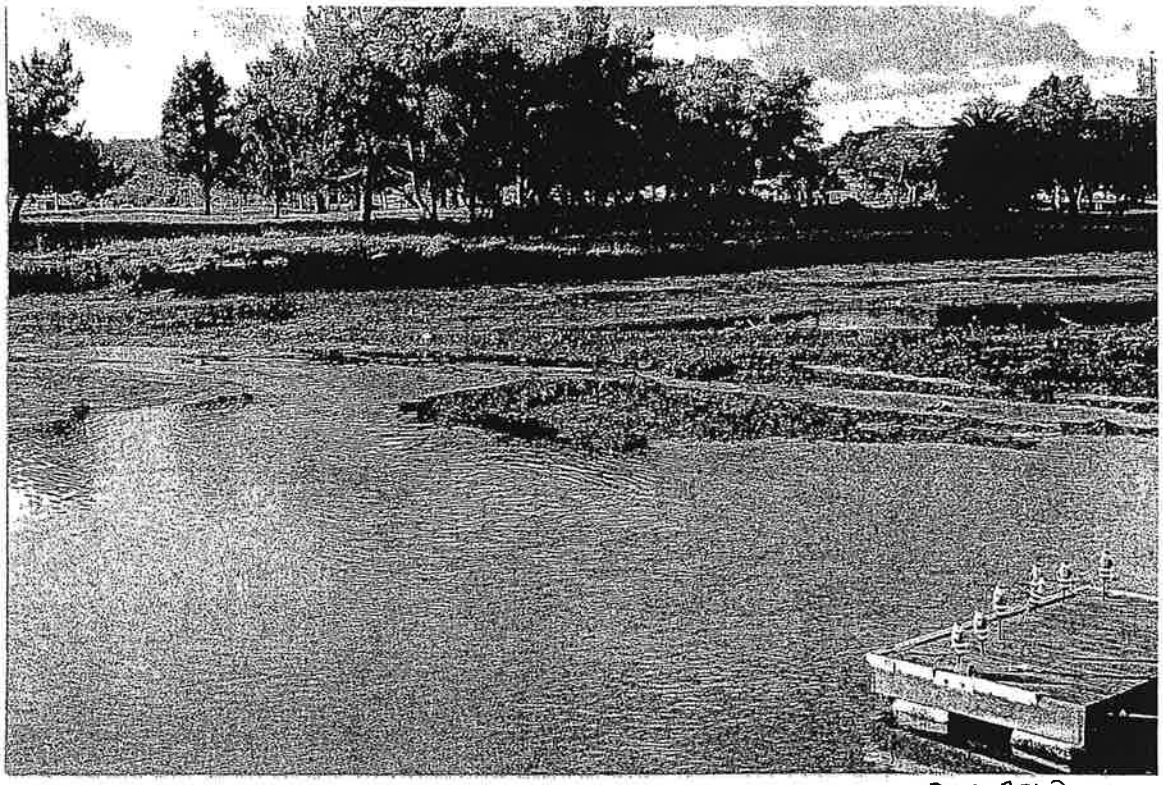
2. Traffic

The **traffic** on Doherty Drive needs **immediate and serious attention**. Doherty Drive was never intended or designed for today's traffic flow of cars, buses and trucks. At the end of school traffic collapses and comes to a standstill – Doherty Drive turns into a parking lot! (Traffic counters do not realistically show this daily recurring situation). An **extension** of Wornum Drive into Larkspur, with direct connections to the parking lots of Redwood High School will help ease the traffic flow and prevent accidents due to too high traffic density. Such an extension can be realized with minimal impact. CC-2
Our neighbors share above concerns.

Sincerely

Edy O. Sennhauser

Telephone & Fax: (415) 924-5055
e-mail: e.o.sennhauser-hydro@att.net



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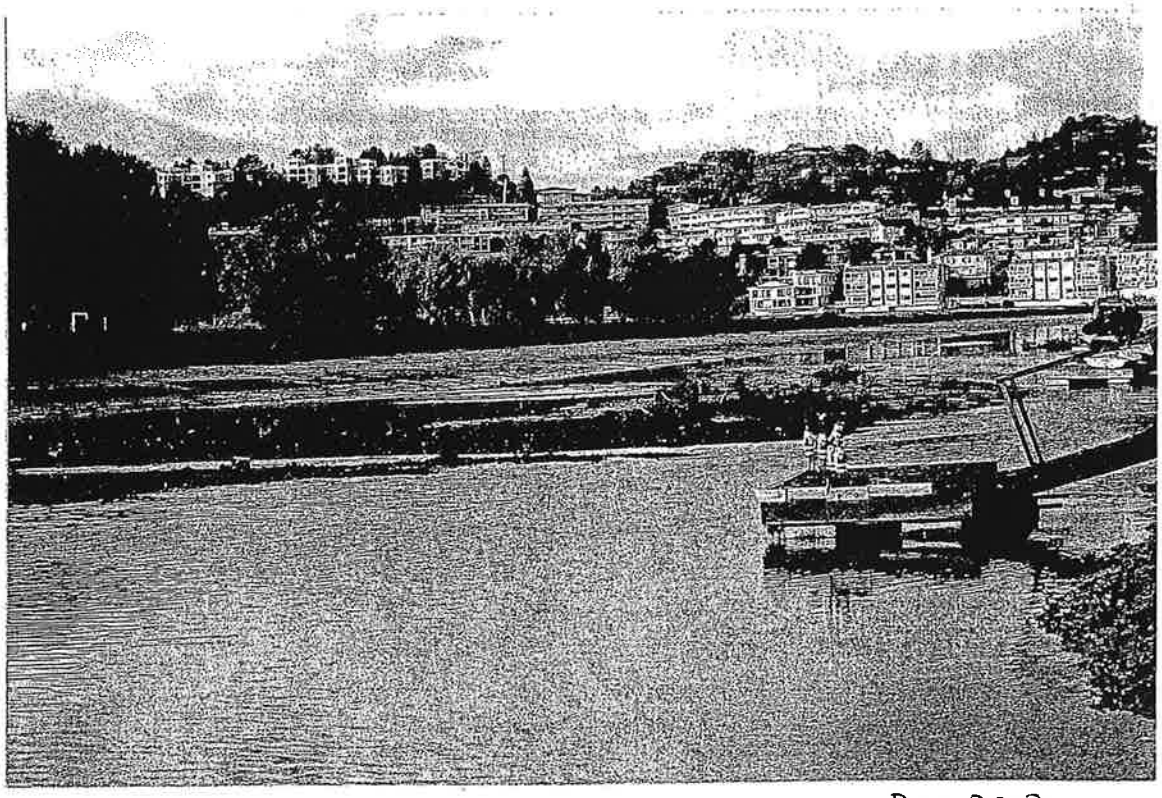

Dec. 2003

CC-1 Contribution of sediments from the Specific Plan area to downstream locations is addressed in Impact 4.4-4. Siltation basins, if needed, may be a component of erosion control measures required by the Stormwater Pollution Prevention Plan. With the implementation of Mitigation Measure 4.4-4, the impact is less than significant.

CC-2 Comment noted. There are currently no plans by Corte Madera, Larkspur or other agency to construct an extension of Wornum Drive. See response to Comment E-1.

DD

ROBERT SCHITTLI
618 RIVIERA CIRCLE
LARKSPUR, CA. 94939

FEBR. 14. 2004

ROBERT PENDOLEY, PROJECT MANAGER
PLANNING DEPARTMENT
CITY OF LARKSPUR

RE: REVISED DRAFT EIR
CENTRAL LARKSPUR SPECIFIC PLAN

IT APPEARS THAT THE EIR DOES NOT ADDRESS TWO ISSUES WHICH ARE OF MAJOR CONCERNS.

1. HYDROLOGY

THE PLAN IS SILENT REGARDING EROSION MATERIAL AND DEBRIS WASHED DOWN LARKSPUR CREEK AND DEPOSITED IN FRONT OF LARKSPUR MARINA PROPERTY OWNERS. TO PREVENT EROSION DEPOSITS AND THEIR COSTLY REMOVAL, SILTATION BASINS SHOULD BE INSTALLED AT THE DOHERTY BRIDGE, FOR EASYER REMOVAL AND MAINTENANCE. DD-1

2. TRAFFIC

THE TRAFFIC ON DOHERTY DRIVE NEEDS SERIOUS ATTENTION. DOHERTY DRIVE WAS NEVER INTENDED OR DESIGNED FOR TODAY'S TRAFFIC FLOW OF CARS AND TRUCKS. DD-2

SINCERELY Robert Schittli

DD-1 Please refer to response to Comment CC-1.

DD-2 See response to Comment E-1.

Friends of Corte Madera Creek Watershed
Post Office Box 415 Larkspur, California 94977

EE

January 6, 2004

Robert Pendoley, Project Manager
Planning Department
City of Larkspur
400 Magnolia Avenue
Larkspur CA 94939

RE: Central Larkspur Specific Plan DEIR

Dear Mr. Pendoley:

Friends of Corte Madera Creek Watershed submits this letter in response to the November 14, 2003 Draft Environmental Impact Report (DEIR) for the Central Larkspur Specific Area Plan (CLASP). We are pleased to see the requirement that the developer implement a habitat restoration plan; this letter contains specific comments and concerns about the DEIR.

Buffers along Larkspur Creek, including Storm Runoff

1. For storm runoff going into the Corte Madera Creek system (Larkspur Creek and smaller unnamed drainages north of the CLASP Area, all of which drain into the estuary of Corte Madera Creek), Policy 11 of the Plan calls for infiltration systems, such as basins and grassy swales, to filter pollutants through the soil, reduce peak flows, capture fine sediments, and allow wetland vegetation to uptake dissolved nutrients.

   Will these systems be located within the buffer along Larkspur Creek, as suggested by Standard 73 of the Plan, potentially subtracting from useful habitat? The discussion in the Plan (Section 8.5 Capital Improvement) regarding Larkspur Creek Habitat Enhancement, states that the Plan calls for coordination of storm drainage and landscaping along the west side of Larkspur Creek. There may be some conflicts between using native plants for habitat enhancement and providing the best performance for meeting the goals of Policy 11. Friends of Corte Madera Creek Watershed strongly supports using native vegetation, and we request that buffers be enlarged if that is necessary for the infiltration systems to function adequately when planted with native vegetation. EE-1

2. The City of Larkspur General Plan, Goal 1, Action Program [12] states:

   > "Provide a buffer zone between natural habitats and human use areas (such as paths), and clearly mark the boundaries. Place restrictions on access to these sensitive areas by pets."

   This appears to have been weakened in the Plan, in which Community Design Standard 65 calls for buffers along Larkspur Creek where "no buildings can be constructed." This suggests that some improvements can be located within the buffer. Friends of Corte Madera Creek Watershed requests that the intent of the General Plan be met by considering the buffer along Larkspur Creek to be a habitat buffer, without any facilities (e.g., paths, gates in fencing, benches) for direct public or homeowner access. We support revising Plan Policy 9. Creek Resources, to read: "...make the creekside corridor visible for the enjoyment of the EE-2

entire community. Locate all landscaping with non-native plants, paths, benches, and other facilities outside the buffer." This is recognized by mitigation 4.5-2a-b. EE-2 Cont'd

3. In measuring the buffer width, will the present location of the top of the bank be used as a starting point or will the post-construction location be used, as Friends would advocate. EE-3

4. Will the buffers accommodate the natural tendency of a creek to meander? The creek bank is currently eroding in some areas. EE-4

Biological Baseline Data

5. Add bird species to those noted in Section 3.2 of the Plan (page 3-7) and Section 4.5.1 DEIR (page 4.5-5). These birds were noted on four visits in Spring 1999 by Charles Kennard (project manager of Friends of Corte Madera Creek Watershed habitat enhancement on the east and south banks of Larkspur Creek): Upland species: mourning dove (*Zenaida macroura*), Anna's hummingbird (*Calypte anna*), violet-green swallow (*Tachycineta thalassina*), barn swallow (*Hirundo rustica*), house finch (*Carpodacus mexicanus*), chestnut-backed chickadee (*Poecilis rufescens*) , California towhee (*Pipilo crissalis*), song sparrow (*Melospiza melodia*), and western scrub-jay (*Aphelocoma californica*). Riparian and aquatic species: Pacific-slope flycatcher (*Empidonax difficilis*), green heron (*Butorides virescens*), snowy egret (*Egretta thula*), Wilson's warbler (*Wilsonia pusilla*), and mallard (*Anas platyrhynchos*). EE-5

Doherty Drive Bridge and Larkspur Creek Widening

6. Where is Figure 7-39, referred to in Policy 64 (page 7-25) in the Plan, illustrating a regraded portion of the creek near Doherty Drive Bridge to enlarge the wetland? This is also mentioned in the discussion of Impact 4.5-2 (DEIR page 4.5-17), which states:

   > "Possible enhancement actions include regrading of the northern portion of the creek to expand the wetland area."

   DEIR Section 4.5 does not account for the loss of wetland habitat by widening of the Doherty Drive bridge. Is the expanded wetland area mitigation for the bridge widening? EE-6

   What is the specific goal of this enlargement? How will success be measured if the wetland is enlarged? More mudflat, more *Spartina foliosa,* more high marsh? If the wetland is expanded, Friends recommends establishing a high marsh. Note that *Spartina densiflora* is an aggressive non-native species that must be controlled in Corte Madera Creek and its tributaries with tidal influence, like Larkspur Creek.

Planting

7. Plant native trees wherever suitable within Subarea 3, for their wildlife and historic value. Indeed, it is easy to infer that the decision to name streets after native trees would call for planting native trees. The City has a Master Tree List, and encourages the planting of native trees on private property. Standard 53 of the Plan (page 7-21), recommends street tree species. In addition to those few natives now included, add: valley oak (*Quercus lobata*), Oregon oak (*Q. garryana*), black oak (*Q. kelloggii*), and big-leaf maple (*Acer macrophyllum*). EE-7

8. Correct the scientific names on page 7-21 of the Plan. EE-8

California Live Oak	*Quercus agrifolia*
Common Hackberry	*Celtis occidentalis*
Oregon Ash	*Fraxinus latifolia*

9. Preserve the vestige of marsh vegetation (cattails) in the open channel running parallel to East Ward, and adjacent to the American Legion building. It is a reminder of Larkspur's natural past. EE-9

10. If any fill is placed or topsoil removed along the creek, the soil which will be expected to support replanted areas should be tested to ensure that soil characteristics (e.g., texture, chemistry, microbial community) are suitable for the proposed planting. EE-10

Paths

10. Will the present creekside footpath be paved or widened at the expense of the creek? Friends urges that any widening of paths be done in a manner that does not reduce riparian or adjacent upland vegetation. EE-11

11. To make a bike path link to the south side of the creek, will Meadowood bridge be widened, or a separate bridge built? Friends opposes any further loss of potential riparian habitat.

Water Quality

12. There are some recent recently collected water quality data available for Larkspur Creek that can be included in the description of surface water quality in Section 4.4.1. Friends of Corte Madera Creek Watershed volunteers took samples during Summer 2003 at 14 sites in the Corte Madera Creek Watershed (5 samples collected at each site during a 30-day period). One site was in lower Larkspur Creek. EPA tested the samples at the Richmond laboratory for *E. coli* (freshwater samples) and *Enterococci* (brackish and saline samples) and found *Enterococci* levels in Larkspur Creek averaging 70 *Enterococci*/100 mL. (The EPA Ambient Water Quality criterion of full-body contact for saltwater is 35 *Enterococci*/100 mL.) EE-12

13. What measures will be included in a stormwater pollution prevention plan (SWPPP) or additional mitigation measures adopted to ensure that subsurface drains are located away from contaminated areas, and that contaminants will not drain directly to Larkspur Creek? EE-13

Hazards and Hazardous Materials

14. The deposition of hazardous materials on soils (Subareas 2 and 3) that drain to Larkspur Creek is a major concern. Soil samples should be taken at depths that reflect the potential migration of chlorinated pesticides, arsenic, mercury, lead, etc. with consideration for the duration, areal extent, and volume of their deposition. In addition, each soil remediation project (i.e. Removal Action Workplan [RAW]) should not only include testing of soils several feet below the removal level, but should include a specific plan to continue periodic sampling and/or monitoring to ensure that migration is tracked and additional remediation performed as necessary. Any soil replacement should be consistent with soils that are naturally found on this site in order to allow effective drainage, restoration of habitat, and prevent negative impacts such as sedimentation of Larkspur Creek. Raising the grade of Subarea 3, in addition to changing the drainage pattern and increasing the potential for EE-14 EE-15 EE-16 EE-17

increased sedimentation to Larkspur Creek, also has risks of liquefaction resulting from earthquakes. EE-17 Cont'd

15. The comment that removal of contaminated soil in Subarea 3 "would improve rather than exacerbate existing conditions" requires definition. An ecological assessment should be conducted that addresses the condition of this area, past and present; the impact of the removal of the contaminated soil; and how to ensure that the actions taken actually improve the habitat. The ecology of this site should be compared to a similar unimpacted habitat. Historical records of Larkspur Creek and the adjacent Specific Plan Area will provide some guidance for improvement of Larkspur Creek and the proposed development site adjacent to the creek. EE-18

16. The Health Based Risk Assessment of the Specific Plan Area should reflect the risk to the most sensitive receptors in the residential scenario, namely young children and pregnant females. The most sensitive species in this type of habitat should also be identified using the comparative ecological assessment method and included in the risk assessment. EE-19

17. The potential exposure of school children at the three nearby sites should be minimized by hiring only licensed hazardous material contractors to physically remove the materials, by having state experts perform air monitoring during the removal period, and by performing the removal during scheduled school vacations. EE-20

18. Each deed of ownership or leasing contract should disclose the historical deposition and extent of removal and continued monitoring of hazardous materials on this site. EE-21

If you have any questions or comments, I can be reached at 456-5052 or toyon@earthlink.net until January 30. I will be away from January 31 through March 6. During that period, please contact Carole d'Alessio at 454-8608 or dalessio@microweb.com.

Sincerely,

Sandra Guldman

Sandra Guldman
President, Friends of Corte Madera Creek Watershed

c: Carole d'Alessio, Friends of Corte Madera Creek Watershed
Charles Kennard, Friends of Corte Madera Creek Watershed

EE-1 The commenter is correct that Specific Plan Utilities Policy 11 and Community Design Standards 73 and 74 call for the placement of stormwater drainage and treatment facilities in the buffer area. The habitat in the proposed open space buffer would consist of native vegetation, including Coyote bush and native bunchgrasses, per Mitigation Measure 4.5-2a, and the grassy swale and detention basins may be constructed with native vegetation. According to Association of Bay Area Government's *Manual of Standards for Erosion and Sediment Control Measures*, native plant species are appropriate for many erosion control applications in the Bay Area. Table 33 in the Manual includes a list of appropriate plant species, among which are coyote bush and the following native bunchgrasses: Coast Range Oniongrass, Squirreltail, Nodding Needlegrass, and Purple Needlegrass (ABAG 1995). Because stormwater drainage and treatment facilities would be constructed of native vegetation per Community Design Standard 75, they would not detract from the amount of habitat in the buffer area. See also response to Comment U-18.

EE-2 The commenter supports Mitigation Measure 4.5-2a, b. No further response is necessary.

EE-3 Specific Plan Community Design Standard 65 states that the widths of the buffer shall be measured from the top of the bank of the creek but is not specific to pre- and post-construction conditions. Because all proposed development designs and plans would be reviewed for consistency with the Specific Plan, Standard 65 would apply to post-construction conditions, resulting in the minimum width buffer width, as stated in the Specific Plan, being measured from post-construction location of the top of the bank.

EE-4 The Specific Plan does not include policies or standards pertaining to creek meandering. Aside from native vegetation, no armoring, riprap, or other materials that would prevent meandering between the banks of Larkspur Creek are proposed. The commenter does not raise issues with regard to the adequacy of the EIR. No further response is necessary.

EE-5 Comment Noted. The commenter suggests adding 13 bird species in the text on Page 3-7 of the Specific Plan. The bird list included in the Specific Plan is intended to characterize the project area and habitat; not to represent an exhaustive list of species that may be found on the project site. The suggested text edits are not necessary.

The commenter also suggests adding FCMCW's bird species list to Page 4.5-5 of the DEIR. The DEIR lists only those bird species observed by biologists who conducted preliminary biological assessments specifically for the proposed project. As with the Specific Plan list, the bird species listed on Page 4.5-5 is not intended to be exhaustive. The DEIR analyzes impacts on bird species based on habitat present on the project site

and consultation with the California Natural Diversity Database rather than on the species observed. It is noted that the 13 species listed in the comment are not special-status species, with the potential exception of the non-subspecies-specific song sparrow, which is already analyzed in the DEIR at Page 4.5-9. Impact 4.5-1 of the DEIR analyzes the impact related to the loss of habitat for common plant and wildlife species and find the impact is less than significant because the existing habitat is regionally abundant. Impact 4.5-3 addresses the effect on terrestrial special-status species and concludes that impact on the San Pablo song sparrow is less than significant because development of the project site would not significantly reduce the amount of potential nesting and foraging habitat for San Pablo song sparrow.

EE-6 Widening of the Doherty Drive bridge is not proposed at this time. Please see responses to Comments T-2 and U-13. See response to Comment U-14 regarding Community Design Policy 64. It is noted that Specific Plan contains a text error in the reference to Figure 7-39; this figure is not included in and is not intended as a part of the Specific Plan.

EE-7 The comment refers to the Specific Plan rather than to adequacy of the DEIR. No further response is necessary. However, it is noted that Specific Plan Community Design Standard 53 does not contain an exhaustive list of street tree species. Standard 53 would allow the commenter's suggested tree species to be planted in the Specific Plan area.

EE-8 The comment refers to the Specific Plan rather than to adequacy of the DEIR. No further response is necessary.

EE-9 The commenter is referred to DEIR Impact 4.5-2 and Mitigation Measure 4.5-2a, b. With the implementation of this mitigation measure, habitats in Larkspur Creek would be restored and protected.

EE-10 DEIR Mitigation Measure 4.5-2a, b requires the preparation of a native plant restoration plan. The plan would include evaluation of suitable soil for habitat restoration purposes.

EE-11 The existing footpath is located outside the Specific Plan area; thus, the Specific Plan does not address future improvements associated with the existing footpath. It is noted that Figure 5-1, Transportation Policy Diagram, in the Specific Plan is revised to clarify that the path shown on the portion of Meadowwood Drive crossing over Larkspur Creek is an existing path. The Specific Plan does not include improvements of Meadowwood Drive.

EE-12 The comment is noted. It is also noted that the water quality sampling results are consistent with the existing text in the DEIR, which states that water quality problems are erosion/siltation and presence of high coliform bacteria (DEIR Page 4.4-9).

EE-13 SWPPP is required to be prepared prior to construction. The commenter is referred to DEIR Impacts 4.12-1 and 4.12-5, as well as Mitigation Measures 4.12-1a, b and 4.12-5, which would require a dewatering plan. The dewatering plan would include storage, testing, and, if necessary, treatment of groundwater removed during construction, which includes the removal of contaminants. One of the potential treatment methods is the installation of an impermeable membrane to prevent contaminants from reaching Larkspur Creek. If subsurface drains are necessary for dewatering purposes, implementation of the dewatering plan would ensure contaminated water that does not meet RWQCB's water quality standards is not released to surface water sources.

EE-14 The commenter is referred to DEIR Pages 4.12-10 through 4.12-12 for discussion on subsurface soil testing for contaminants (e.g., chlorinated pesticides, arsenic, mercury, and lead) previously conducted on the project site. Implementation of the Removal Action Workplan (RAW), which is a part of the proposed project, would result in the removal of contaminated soils, in accordance with Department of Toxic Substances Control.

EE-15 The RAW requires the preparation of a Sampling and Analysis Plan, which would be implemented to ensure that all contaminated soil has been adequately removed from the project site (ENSR 2002).

EE-16 Replacement soil used on the project site would be tested in conformance with DTSC guidelines to verify that it is clean (ENSR 2002). Construction activities would conform with the SWPPP, required by Mitigation Measure 4.3-3 to minimize sedimentation, and the native plant restoration plan, required by Mitigation Measure 4.5-2a.

EE-17 The DEIR assesses liquefaction in Impact 4.3-2. The required project-specific geotechnical investigations that would consider any proposed raising of grade and drainage pattern changes, as well as compliance with the City's building code, would minimize the risk of liquefaction.

EE-18 The commenter is referred to DEIR Pages 4.12-13 and 4.12-14 for discussion of the screening-level ecological evaluation conducted by ENVIRON to determine if the presence of onsite contaminants poses a potential threat to nonhuman receptors (e.g., wildlife). With the implementation of the RAW, clean soil would replace contaminated soil. Given that this would reduce the risk of exposure to hazardous materials, the removal of contaminated soil would represent an improvement over existing conditions.

EE-19 As stated in the health-based risk assessment conducted for Subarea 3 (ENVIRON 2002), which is Appendix H-3 of this document, the health risk was calculated for on-site residents, both adults and children. The risk was determined to be below Cal/EPA and USEPA standards for onsite children. Ecological evaluation was based on small mammals and birds, which are the animals that are most in contact with sediments or soils.

EE-20 The commenter is referred to Mitigation Measure 4.12-2, which requires the preparation of a demolition plan that must be reviewed by DTC and Bay Area Air Quality Management District for compliance with BAAQMD regulations and Division of Occupational Safety and Health and Occupational Safety & Health Administration standards, including any that are specific to schools. For example, workers conducting removal of lead paint and window glazing must be certified by Department of Health and Safety.

EE-21 The comment is noted. No further response is necessary.

DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
333 MARKET STREET
SAN FRANCISCO, CALIFORNIA 94105-2197

FF

Regulatory Branch

SUBJECT: File Number 28388N

Mr. Robert Pendoley
Planning Department
City of Larkspur
400 Magnolia Avenue
Larkspur, California 94939

Dear Mr. Pendoley:

Thank you for your submittal of the Notice of Availability of Revised Draft Environmental Impact Report for the Central Larkspur Specific Plan requesting confirmation of the extent of Corps of Engineers jurisdiction on a 22-acre area adjacent to downtown in the City of Larkspur, Marin County, California. The Notice of Availability of Revised Environmental Impact Report was received on November 19, 2003 dated November 2003. Since this activity may involve activity in or near Larkspur Creek, a water of the U.S., the Corps of Engineers will need to review those portions of your project.

All proposed discharges of dredged or fill material into waters of the United States must be authorized by the Corps of Engineers pursuant to Section 404 of the Clean Water Act (CWA) (33 U.S.C. 1344). Waters of the United States generally include tidal waters, lakes, ponds, rivers, streams (including intermittent streams), and wetlands.

FF-1

Your proposed work is within our jurisdiction and a permit is required. Application for Corps authorization should be made to this office using the application form in the enclosed pamphlet. To avoid delays it is essential that you enter the file number at the top of this letter into Item No. 1. The application must include plans showing the location, extent and character of the proposed activity, prepared in accordance with the requirements contained in this pamphlet. You should note, in planning your work, that upon receipt of a properly completed application and plans, it may be necessary to advertise the proposed work by issuing a public notice for a period of 30 days.

If an individual permit is required, it will be necessary for you to demonstrate to the Corps that your proposed fill is necessary because there are no practicable alternatives, as outlined in the U.S. Environmental Protection Agency's Section 404(b)(1) Guidelines. A copy is enclosed to aid you in preparation of this alternative analysis.

However, our nationwide or regional permits have already authorized certain activities provided specified conditions are met. Your completed application will enable us to determine whether your activity is already authorized. You are advised to refrain from commencement of your proposed activity until a determination has been made that it is covered by an existing permit. Commencement of work before you received our notification may be interpreted as a violation of our regulations. FF-1 Cont'd

If you have any questions, please call Katherine Reyes of our Regulatory Branch at telephone 415-977-8462. All correspondence should reference the file number at the head of this letter.

Sincerely,

Jane M. Hicks

Jane M. Hicks
Chief, North Section

Enclosure

FF-1 The comment is noted. The City intends to comply with all requirements of the Clean Water Act, including application for any appropriate permits. No further response is necessary.

3 REVISIONS TO THE DRAFT EIR

This chapter includes revisions to text in the DEIR. Text changes are intended to clarify or correct information in the DEIR in response to comments received on the document. Revisions are shown below as excerpts from the DEIR text, with strikethrough (~~strikethrough~~) text for deletions and underlined (underlined) text for additions. The changes appear in order to their location in the DEIR.

Volume II Table of Contents, Page v, is revised as follows:

H-2 ~~Soil and Groundwater Sampling and Analysis Report, ENSR International 2001~~Draft Removal Action Workplan, Niven Nursery, 2 Ward Street, Larkspur, California

CHAPTER 1, INTRODUCTION

Page 1-6, Table 1-1, is revised as follows:

Table 1-1
Permits and Other Required Approvals that May Use This EIR to Implement the Project

Agency	Permit/Approval/Certification	Reason
City Council (Subsequent to review and recommendation by the Planning Commission)	Certification of the Final Central Larkspur Specific Plan EIR	To certify the Final EIR as adequate and complete review of the environmental effects of the Specific Plan.
	Approval of amendments to the General Plan and the Downtown Specific, adoption of the Central Larkspur Specific Plan, and rezoning of Subarea 3	To amend the General Plan to redesignate 16.8 acres from Low Density Residential to Low Density Residential and Parkland and revise the land Use Element and Circulation Plan, to amend the Downtown the Specific Plan to remove Subareas 1 and 2 from the Downtown Specific Plan boundaries, to adopt the Specific Plan, and to rezone Subarea 3 from L-1, Light Industrial, to P-D, Planned Development District with the Specific Plan as the Preliminary Development Plan.
City Council and Planning Commission	Certification and approval of project-specific environmental documents, as appropriate	To review project-specific elements.

Table 1-1 Permits and Other Required Approvals that May Use This EIR to Implement the Project		
Agency	Permit/Approval/Certification	Reason
	Planning approvals for individual development projects including rezone, design review, use permits, tentative and subdivision maps, historic preservation review, grading permits, and other entitlements as required by the Zoning and other City Ordinances	To ensure that subsequent development projects are reviewed by the City for their consistency with the Specific Plan.
City Department of Public Works and Engineering	Approval of stormwater drainage facilities	To ensure that development plans are in compliance with the City's storm drainage design standards.
	Approval of Erosion Control Plan	To control the potential for stormwater to erode soils and cause them to enter Larkspur Creek.
	Issuance of grading permit	To ensure that grading is conducted in compliance with the City's grading standards.
Heritage Preservation Committee	Historic preservation review	Advisory to City Planning Commission to ensure that development projects are reviewed for protection of historic resources.
State Water Resources Control Board	Storm Water Pollution Prevention Plan	Required for the discharge of stormwater from construction and developed areas that are 1 acre or larger.
California Environmental Protection Agency, Department of Toxic Substances Control	Demolition Plan approval	Required for the safe demolition of existing structures.
	Removal Action Workplan and Health and Safety Plan	Required to reduce the impact of contaminated soils.
Bay Area Air Quality Management District	Demolition Permit	Required to reduce emissions of air contaminants.

CHAPTER 2, PROJECT DESCRIPTION

Page 2-1, Third Paragraph is revised as follows:

Elevations within the Specific Plan area range from 7 to 22 feet above sea level, and the Specific Plan area is relatively flat except for the area just east of Magnolia Avenue, where portions of the Specific Plan area drop 7 feet in elevation in a distance of about 100 feet. Larkspur Creek is subject to tidal action and freshwater surface runoff flows. The north-western portion of Subarea 3 of the Specific Plan area is subject to flooding as a result of backup into an existing concrete ditch during extreme high tides.

Larkspur Creek is a tributary to Corte Madera Creek, located approximately 1 mile east-northeast of the Specific Plan area. The prevailing soil conditions consist of 5 to 7 feet of fill material underlain by Bay Mud.

Page 2-1, Fifth Paragraph is revised as follows:

"Historically, the Specific Plan area was occupied by the Coastal Miwok Indians, and supported ranching and farming operations in the 19th century. The Niven Nursery, in the eastern portion of the Specific Plan area, dates back to the early 1920s. The railway station and warming house were built in 1929 to replace the original Northwestern Pacific Railroad station, which was built in 1891. The building that is now the American Legion hall was built sometime before 1909."

Page 2-5, Second Paragraph is revised as follows:

The area surrounding the Specific Plan area is completely developed, consisting of a tennis club, middle school, police station, Larkspur Boardwalk, and public park on the north side of Doherty Drive; a high school district corporation yard on the east side of Larkspur Creek; low- to medium-density residential units to the south; and downtown commercial and office uses to the southwest and west.

Page 2-15, Second and Third Paragraphs are revised as follows:

Specific Plan Land Use Policy 29 specifies that if the purchase of the affordable housing site, which may be made available for purchase by the developer of Subarea 3, is not completed within 16 months from recordation of the Final Map for Subarea 3, the site shall not thereafter be available for such purchase. In the event that the offer to purchase property for an affordable multifamily housing project is not exercised, the Larkspur General Plan's policy requiring that at least 10% of the units be affordable would be implemented or, if applicable at the time, any new policy requirements of the update housing element.

If the multifamily housing site is developed as affordable housing, up to 85 residential units may be developed in Subarea 3. If the multifamily housing site is not purchased for affordable housing,~~If the offer to purchase is not exercised,~~ and the affordable multifamily housing project is not developed, up to 63 market-rate units may be built, of which a minimum of 30 units would be cottage homes. In addition, affordable units would also be required, equal to at least 10% (this percentage may be increased with the update of the City's Housing Element) of the market-rate units (0.10 X 63 = 7); it is the City's practice to round up). The maximum number of units that would be allowed if the affordable multifamily project is not developed is 70 units (63 + 7 = 70).

Page 2-16, Sixth Paragraph is revised as follows:

The circulation system for the Specific Plan area would be designed to facilitate traffic flow, improve safety, and incorporate a bikeway. The City has identified these

improvements for consistency with the General Plan, and they are designed to implement General Plan policies. A full consistency analysis is contained in Appendix B-2. While developers of projects within the Specific Plan area would be responsible for the payment of traffic impact fees, the City would be responsible for implementing the following improvements to Doherty Drive (the developer could be allowed to construct the improvements in lieu of paying the fee) ~~would be improved as follows~~:

Page 2-19, Second Bullet Point is revised as follows:

Rezone of Subarea 3 (from L-1, Light Industrial, to P-D, Planned Development District) with the Specific Plan as the Preliminary Development Plan

Page 2-20, First Paragraph is revised as follows:

Table 2-3 shows a rate for a larger-than-average single-family home (3,000-plus square feet), based on a trip generation survey conducted by Wilbur Smith Associates, transportation consultants, in the city of Corte Madera in ~~May~~ June 2002 at Verona Place. The survey found that the sample of 7 large homes, which are in excess of 4,000 square feet each, located on a cul-de-sac, generated peak-hour trips at an overall average rate that was 30% higher than the ITE published rate. This trip generation rate is recognized to be conservative in that it is unlikely that Subarea 3 would be able to accommodate 28 lots with 4,000-plus square feet homes because of Specific Plan restrictions (i.e., 40% FAR, 0.9-acre park). Furthermore, housing units expected to be developed in Subarea 3 would be located closer to stores, services, and other commercial development. However, this trip generation rate would result in the worst-case scenario and, for the purposes of environmental analysis, the worst-case scenario is appropriate for disclosure of environmental effects that may result from the implementation of the Specific Plan.

Page 2-23, Table 2-7 is revised as follows:

Table 2-7
Theoretical Maximum Intensity in Development Subareas

	Subarea 1		Subarea 2		Subarea 3	
	New	Total	New	Total	New	Total
Single-Family (<3,000 square feet) (units)	0	0	0	0	7	7
Single-Family (>3,000 square feet) (units)	0	0	0	0	28	28
Multifamily Residential (units)	0	0	19	19	27	27
Cottage Residential (units)	0	0	0	0	23	23
Hotel/Inn (rooms)	36	36	0	0	0	0
Retail (square feet)	~~58,1004~~ 6,565	58,100	4,500	67,600	0	0
Source: Wilbur Smith Associates 2003						

CHAPTER 3, EXECUTIVE SUMMARY

Page 3-3, Fourth Paragraph is revised as follows:

Doherty Park would remain in its current condition, with the possible exception of the bikeway improvements, and the American Legion hall would be retained.

Page 3-7, Last Paragraph (continues on page 3-8) is revised as follows:

When the No Project Alternative has been identified as the environmentally superior alternative, CEQA requires that an additional alternative be identified as the environmentally superior alternative in the absence of the No Project Alternative. Because the Low Density Alternative would result in reduced number and severity of impacts, it would be regarded as the environmentally superior alternative in the absence of the No Project Alternative. However, this alternative would make less of a contribution toward helping the City to meet its fair share of the regional housing need, as identified in the Housing Element of the General Plan, than would either the Proposed Project or the Residential Focus Alternative.

Pages 3-9 through 3-43, Revisions to the Executive Summary table are shown on the following pages:

TABLE 3-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
4.3-3: Soil Erosion During Construction Activities	PS	***Prepare and Implement Stormwater Pollution Prevention Plan*** The City shall include the following new policy in the Specific Plan. **New Policy:** To reduce the potential for impacts on Larkspur and Corte Madera Creeks from soil erosion caused by grading and other construction activities, the developer for either public or private projects shall prepare an Erosion Control Plan for any construction activity, including those that involve less than one acre of disturbance area, to control the potential for stormwater to erode site soils and cause them to enter the creeks. The plan, which shall be in the form of a SWPPP, shall be reviewed and approved by the City and the San Francisco Bay Regional Water Quality Control Board (RWQCB) prior to the issuance of construction permits and shall be implemented during construction activities and for the next rainy season following completion of construction. The Erosion Control Plan shall comply with the City's Grading Ordinance and shall include, but shall not be limited to, the following measures: ▸ Grading/earthmoving shall not occur during the rainy season (October 15–March 15). Should construction proceed during or shortly after wet-weather conditions at any time of year, the geotechnical engineer in the field at the time of grading/earthmoving shall provide specific wet-weather grading/earthmoving recommendations.	LTS

TABLE 3-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		▸ A vegetated buffer shall be protected during grading/ earthmoving next to Larkspur Creek. This buffer shall be at least 50 feet wide from the top of the bank on the north/south reach of the creek at the eastern edge of the Specific Plan area, and at least 25 feet wide from the top of bank on the east/west reach of the creek at the southern edge of the Specific Plan area. The conditions of all development permits within Subarea 3 and all subsequent grading permits shall both specify that before the start of any grading, orange barrier fencing shall be installed at the outer edge of the protected buffer area. The fencing shall be maintained until all construction activities have ceased. No construction activity, including the storage of construction materials, or vehicles staging or maneuvering, shall be permitted in the buffer area~~.~~, except those activities to implement requirements of the San Francisco Bay Regional Water Quality Control Board for water treatment and stormwater detention facilities, such as grassy swales, and to implement the native plant restoration plan for upland habitat in the buffer area, as described in Mitigation Measures 4.5-2a and 4.5-2b of the DEIR. ▸ Silt fencing and straw bales shall be used along Larkspur Creek to trap any silt flows from unvegetated ground.	

TABLE 3-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
4.3-5: Damage to Underground Utilities Caused by Corrosive Soils.		***(a) Implement Mitigation Measure 4.3-4*** (a) ~~Implement Mitigation Measure 4.3-4~~ Geotechnical Testing and Engineering Design Report that includes a Corrosive Soil Evaluation The City shall include the following new policy in the Specific Plan: The City ~~shall implement Mitigation Measure 4.3-4, Submit Geotechnical Testing and Engineering Design Report,~~ shall require the submittal of geotechnical testing and engineering design reports that include evaluation of corrosive soils. ~~to mitigate the potential for damage to underground utilities from corrosive soils.~~ ***(b) Backfill with Noncorrosive Soil and Use Corrosion-Resistant Materials*** The City shall include the following new policy in the Specific Plan. **New Policy:** Utility line excavations shall be backfilled with noncorrosive soil backfill materials or pipelines shall be constructed of corrosion-resistant materials.	
4.4-6: Degradation of Groundwater Quality	PS	***Implement Mitigation Measures ~~4.4-3~~ 4.3-3 and 4.4-5*** The City shall include the following new policy in the Specific Plan.	LTS

TABLE 3-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		New Policy: The City shall require implementation of Mitigation Measure ~~4.4-3~~4.3-3, Prepare and Implement SWPPP, and Mitigation Measure 4.4-5, Implement Groundwater Testing Program in Conjunction with Dewatering, for all development in the Specific Plan area in order to reduce the increase in pollutants conveyed to the groundwater table to a less-than-significant level and ensure that site dewatering for construction will not result in groundwater quality impacts.	
4.6-5: Substantial Emissions of Dust and Diesel Exhaust during Construction and Remediation		***a) Implement Control Measures to Control Dust that Includes PM10 from Construction Activities*** The City shall include the following new policy in the Specific Plan. **New Policy:** The City shall condition all future development permits to require implementation of effective and comprehensive dust control measures. Implementation of feasible controls, outlined below, can substantially reduce construction PM_{10} emissions. Construction activities are also subject to BAAQMD Regulation VIII, which requires suppressing dust emissions from all sources of dust generation using water, chemical stabilizers, and/or vegetative ground cover. Implementing fugitive dust control measures can greatly reduce adverse impacts. According to BAAQMD, estimating the amounts of construction dust from a particular project is at best imprecise. The air district	

TABLE 3-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		prefers to evaluate construction dust significance by project size and proximity to sensitive receptors. Potential adverse impacts then determine which control measures will be implemented. The Specific Plan area is near existing sensitive receptors (residences, schools) and the dust generated may contain contaminants. ~~would, t~~Thus, construction activities need the most stringent control measures recommended by the BAAQMD. These measures, stated below, would reduce construction dust to the maximum extent feasible (by 70% or more). Therefore, the construction contractor shall implement all of the following measures: 1. Water all active construction areas at least twice daily and more often during windy periods. Active areas adjacent to residences should be kept damp at all times. 2. Cover all hauling trucks or maintain at least 2 feet of freeboard. Pave, apply water at least twice daily, or apply (nontoxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas. 3. Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas. Sweep adjacent streets daily (with water sweepers) if visible soil material is deposited onto the road surface. 4. Hydroseed or apply (nontoxic) soil stabilizers to inactive construction areas (previously graded areas that are inactive for 10 days or more). 5. Enclose, cover, water twice daily, or apply	

TABLE 3-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		(nontoxic) soil binders to exposed stockpiles. 6. Limit traffic speeds on any unpaved roads to 15 mph. 7. Install sandbags or other erosion control measures to prevent silt runoff to public roadways. 8. Replant vegetation in disturbed areas as quickly as possible. 9. Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the construction site. 10. Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph. 11. Designate an air quality coordinator for the project. Prominently post a phone number for this person on the job site, and distribute same to all nearby residents and businesses. The coordinator will respond to and remedy any complaints about dust, exhaust, or other air quality concerns. A log shall be kept of all complaints and how and when the problem was remedied. 12. Perform air monitoring during remediation activities. If deemed appropriate by the lead agency, DTSC, and/or BAAQMD conduct air monitoring through use of direct-reading instruments and collection of samples on the site. Prepare a Health and Safety Plan, which shall include air monitoring procedures. The Health	

TABLE 3-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		and Safety Plan shall be reviewed and approved by the California Department of Toxic Substance Control. ***(b) Implement All Feasible and Reasonable Control Measures to Reduce Construction Activity TACs.*** The City shall include the following new text and policy in the Specific Plan. **Text:** Diesel exhaust is a major source of fine particles, as well as more than 40 substances that are listed as hazardous pollutants. The BAAQMD CEQA Guidelines recognize use of alternatively fueled construction equipment as an effective mitigation. Low-emission fuels are currently available to minimize construction equipment TAC emissions. Engine tuning and control equipment retrofit would help minimize emissions of NO_X that contributes to PM_{10} and $PM_{2.5}$. 100% biodiesel fuel, called B100, reduces TAC emissions by approximately 80% to 90%. Ultra-low sulfur fossil diesel fuel (less than 15 ppm by weight) also significantly reduces PM_{10}. Oxidation catalysts or catalytic particulate filters are now available for many types of diesel equipment. These systems require biodiesel or CARB ultra low-sulfur diesel fuel. These systems in combination with ultra-low sulfur diesel can reduce emissions of fine particulates and toxic hydrocarbons by 90 percent or more. CARB-approved commercially available fuel additives, such as PuriNOx, reduce emissions of both NO_X and PM_{10} by 20% to 40%,	

TABLE 3-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		depending on equipment. **New Policy:** The City shall require all onsite construction and grading equipment to implement the following three emission control techniques: 1. Use biodiesel fuel for all onsite diesel powered equipment. For equipment with engines built in 1994 or later, B100 shall be used. In pre-1994 engines, B-20 fuel (a mixture of 20% biodiesel and 80% fossil diesel fuel) may be used if necessary. If B20 is used, the fossil diesel component should be CARB ultra low-sulfur fuel. OR Use an oxidation catalyst or catalytic particulate filter on all diesel powered equipment rated above 50 horsepower. 2. Use PuriNOx additive or equivalent. 3. Tune vehicle engines to produce minimum NO_X, typically by engine retard of 4–8 degrees. This can reduce emissions by an additional 5%.	
4.7-7: Construction Related Traffic	PS	***Prepare and Implement Detailed Construction Traffic Control Plan.*** The City shall include the following new policy in the Specific Plan: **New Policy:** Construction contractor(s) in the Specific Plan area shall be required to prepare a detailed construction management plan(s) prior to beginning	LTS

TABLE 3-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		work within the Specific Plan area. The plans shall provide information related to duration of the construction, size of work force, average daily truck deliveries, proposed truck routes to and from the construction site, and hours/days of operation. For remediation activities only, the construction management plan, which may also a part of an Implementation Plan, shall be reviewed and approved by the California Department of Toxic Substances Control. For all construction activities, t~~T~~he construction management plans shall include traffic control measures specific to each construction site and vicinity; such measures may include the following: ▸ Preparation and filing of a detailed construction management plan by the contractor. ▸ Provision of on-site staging area for all equipment and material deliveries ▸ Provision of on-site parking for construction work force. ▸ To the extent possible, control of delivery truck activity to off-peak periods. ▸ Use of a flag person as needed during the heaviest construction periods. ▸ For remediation activities, provision of information regarding the routes to be used during transport of contaminated soil, the facility where contaminated soil is to be disposed, hours during which excavation	

TABLE 3-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		will occur, traffic control and loading procedures, and contingency measures in the case of spills or accidents. All transportation of contaminated soil during remediation activities shall comply with California Health and Safety Code §25160 and Title 22 of the California Code of Regulations §66263, which establish standards for the safe transportation of hazardous waste.	
4.7-9: Unacceptable Cumulative Level of Service at East Ward Street/Magnolia Avenue Intersection	S	***Expand Mitigation Measure 4.7-2 to Add an Additional Northbound ~~Left~~Right Turn Lane at ~~King~~East Ward Street/Magnolia Avenue.*** A northbound ~~left~~right turn lane shall be created at this intersection with the removal of approximately two to three parking spaces from the east curb face of Magnolia Avenue located directly south of East Ward Street. Under Existing Plus Cumulative Plus Specific Plan conditions and upon completion of the proposed mitigation measure the intersection would operate acceptably at LOS C during the a.m. and p.m. peak hours. This mitigation would reduce the impacts to levels that are less than significant.	LTS
4.11-2: Potential Damage to or Destruction of Archaeological Resources **If archaeological resources are found in the subsurface	PS	***(a) Implement Archaeological Testing Program*** The City shall include the following new policy in the Specific Plan. **New Policy:** An archaeological subsurface testing program to delineate and define the elements of CA-MRN-68 shall be implemented before the beginning of	LTS

TABLE 3-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
testing program, and destruction of the archaeological resources cannot be avoided, Impact 4.11-2 would be considered significant and unavoidable.		~~construction~~excavation activities or other activities that may disturb the resources. The archaeologist will make a preliminary assessment of NRHP and CRHR eligibility based on the results of the testing. If CA-MRN-68 is found to be potentially eligible for listing, then destruction of this site must be avoided. ***(b) Monitor Construction*** The City shall include the following new policy in the Specific Plan. **New Policy:** A professional archaeologist, who meets the Secretary of the Interior's Standards and Guidelines, and a Native American observer (identified through the Native American Heritage Commission) shall be present to monitor ground disturbing activities within the Specific Plan area. In the event that any archaeological resources are uncovered within the Specific Plan area during future remediation or construction activity associated with the implementation of the Specific Plan, there shall be no further excavation or disturbance of the archaeological site or any nearby area until the archaeologist has evaluated the find and appropriate site-specific mitigation has been identified ~~to protect, preserve, remove, or restore the artifacts uncovered~~ consistent with CEQA §21083.2(b)(3) or (4) and CEQA Guidelines §15126.4(b)(3).	
4.12-2: Demolition-Related Release of Hazardous Materials, Including Materials Containing Lead and Asbestos	PS	***Implement a Demolition Plan***. The City shall include the following new policy in the	LTS

TABLE 3-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		Specific Plan. **New Policy:** Site surveys for the presence of potentially hazardous building materials shall be reviewed/performed, and a demolition plan for safe demolition of existing structures in Subarea 3 shall be proposed by the developer and incorporated into the project prior to the issuance of construction permits and implemented during construction activities. The demolition plan shall address protection of both onsite workers, offsite residents, and occupants in nearby schools from chemical and physical hazards. The demolition plan shall reference, and include by this reference, all provisions of the Removal Action Plan and Healthy and Safety Plan for Subarea 3 as approved by DTSC. The demolition plan shall be reviewed ~~and approved~~ by DTSC and the City. A demolition permit shall be obtained from the Bay Area Air Quality Management District (BAAQMD), which would review the demolition plan prior to issuance of a permit. All contaminated building materials shall be tested for contaminant concentrations and shall be disposed of at appropriate licensed landfill facilities. Before demolition, hazardous building materials such as peeling, chipping, and friable lead-based paint, window glazing, and building materials containing asbestos shall be removed in accordance with all applicable guidelines, laws, and ordinances. The Demolition Plan shall include a program of air monitoring for dust particulates and	

TABLE 3-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		attached contaminants. Dust control and suspension of work during dry windy days shall be addressed in the Demolition Plan. Before a demolition permit is obtained from the BAAQMD, an asbestos demolition survey shall be conducted in accordance with the requirements of BAAQMD Regulation 11, Rule 2. The California Division of Occupational Safety and Health (DOSH) and OSHA do not define threshold limit values for lead-containing paints and, therefore, paints or coatings containing any detectable amounts of lead are regulated by these agencies' standards, if construction activities covered in the scope of these standards emit lead. The DOSH standards prescribe procedures to be followed based on anticipated exposure resulting from construction activities performed. Demolition procedures may involve potential worker exposure above the DOSH action level for lead. Therefore, the requirements of Guidelines §1532.1 must be followed. These requirements include but are not limited to the following: ▸ Loose and peeling lead-containing paint and window glazing should be removed before building demolition. Workers conducting removal of lead paint and window glazing must receive training in accordance with Guidelines §1532.1. ▸ The lead paint and window glazing removal project should be designed by a lead project designer, project monitor, or supervisor certified by the DHS.	

TABLE 3-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		▸ A written Lead Compliance Plan that that meets the requirements of the lead construction standard must be prepared by any contractor whose actions would have an impact on lead coatings. ▸ Workers conducting removal of lead paint and window glazing must be certified by DHS in accordance with Guidelines §1532.1. ▸ Workers who may be exposed above the Action Level must have blood lead levels tested before commencement of lead work and at least quarterly thereafter for the duration of the project. Workers who are terminated from the project should have their blood lead levels tested within 24 hours of termination. ▸ A written exposure assessment must be prepared in accordance with Guidelines §1532.1. ▸ Any amount of lead waste generated, including window glazing and painted building components, must be characterized for proper disposal in accordance with Title 22, §66261.24. In addition, compliance with BAAQMD Regulation 11, Rule 1, Lead, which contains procedures that limit daily emissions of lead and ensures "a person shall not discharge an emission of lead, or compound of lead calculated as lead, that will result in ground level concentrations in excess of 1.0 $\mu g/m^3$ averaged over 24 hours." This regulation required calculations of and	

TABLE 3-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		monitoring of lead concentrations to ensure compliance.	
4.12-3: Exposure to Hazardous Materials during Removal of Contaminated Soil	PS	***Implement Removal Action Workplan and Health and Safety Plan.*** The City shall include the following new policy in the Specific Plan. **New Policy:** The RAW developed for Subarea 3, under the oversight of DTSC, shall be incorporated into the project prior to the issuance of construction permits and implemented during construction activities. The workplan includes provisions for safe removal, transportation, and disposal of selected contaminated soil from Subarea 3. Removal of contaminated soils from the areas identified would reduce the cancer risk to less than 2~~1~~ in 1 million. In compliance with the RAW, approved by DTSC, ~~C~~clean fill shall also be placed over much of Subarea 3, further reducing the potential for exposure of people to residual soil contamination. A detailed Health and Safety Plan shall be prepared to address measures to protect workers and the community during remedial activities, and shall be reviewed and approved by DTSC.	LTS
4.12-6: Potential Contamination of Soils Near Redwood High School, San Andreas High School, and Hall Middle School	PS	***Implement Demolition Plan and Removal Action Workplan.*** The City shall include the following new policy in the Specific Plan. **New Policy:** The proposed hazardous materials remediation plans and actions for Subarea 3 shall be implemented to reduce the overall risk to students at the	LTS

TABLE 3-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		nearby Redwood High School and Hall Middle School. During the demolition and remediation process, special measures shall be taken in accordance with an approved Demolition Plan and RAW to contain and remove potentially hazardous substances and wastes under controlled conditions. The developer shall prepare and submit t~~T~~hese plans, which must be approved by the City prior to the issuance of construction permits.~~, shall address approved routes, truck cleaning and inspection, and contingencies for addressing spills and other accidents.~~ The details of approved truck routes, truck cleaning and inspection, and contingencies in case of spills or accidents shall be addressed in an Implementation Plan that is to be reviewed and approved by DTSC prior to remediation of Subarea 3. The Implementation Plan shall include a Health and Safety Plan, Transportation Plan and Contingency Plan in accordance with Title 8 of the California Code of Regulations section 5192, California Health Safety Code Section 25160 and Title 22 of the California Code of Regulations Section 66236 to assure that all remediation activities are protective of human health and the environment.	

SECTION 4.1, LAND USE/PLANS AND POLICIES

Page 4.1-8, Last paragraph, last two sentences are revised as follows:

~~As a part of the approval process~~ Upon approval of the Specific Plan ~~for future planned development projects in Subarea 3~~, Subarea 3 would be rezoned from L-1 Light Industrial to Planned Development with the Specific Plan as the Preliminary Development Plan. The Planned Development zone would be consistent with the residential uses and the public park that the Specific Plan designated for Subarea 3.

The text on DEIR Page 4.1-10 is revised as follows:

- **Pedestrian and Bicycle Routes.** The regional bikeway will remain along the NWP right-of-way. A new route shall be added that will be a Class 1 path through the Specific Plan area, and a Class 2 path on Larkspur Plaza Drive north of Doherty Drive connecting with the existing Class 1 path in the Creekside development. ~~A new alignment to the regional bikeway, designed to Class I bike path standards, would be added.~~

Page 4.1-12, Second Paragraph is revised as follows:

The Bicycle/Pedestrian Circulation Plan in the General Plan identifies bike routes in the city, including those within or adjacent to the Specific Plan boundary. The Specific Plan includes the provision of a Class I bike path in the former railroad right-of-way in Subarea 1. Also, a bikeway would be provided along the ~~west~~ east side of Larkspur Creek. While the Class 2 bike path proposed under the Specific Plan along Larkspur Plaza Drive and the Class 1 paths proposed on the south side of Doherty Drive and ~~west~~ east of Larkspur Creek are not identified in the Bicycle/Pedestrian Circulation Diagram (General Plan Figure 8-2), they are consistent with Policies a, d, e, k, and l in the Bicycle and Pedestrian Trails and Paths chapter of the General Plan. The proposed changes to Figure 8-2 would make the proposed bike paths fully consistent with the General Plan.

SECTION 4.3, GEOLOGY AND SOILS

Page 4.3-13 Last Paragraph is revised as follows:

The Specific Plan area is located on a flat, relatively level area with cohesive fill and native soils; as such, soil erosion occurs infrequently on most of the Specific Plan area. However, Larkspur Creek runs along the southern and eastern boundaries of the Specific Plan area, and erosion of soils during construction activities could potentially affect the creek in those areas. Soils loosened, exposed, and stored in piles during construction in the vicinity of Larkspur Creek could potentially become mobilized by stormwater during construction activities. Such uncontrolled soil erosion could potentially affect the creek by adding to its sediment load. Because Larkspur Creek is a

tributary of Corte Madera Creek, the amount of sediment in Corte Madera Creek could also increase as a result. The potential for soil erosion would be reduced if construction and remediation activities occur outside the rainy season; however, storm events may occur year-round and, thus, soil erosion could occur anytime during the year. The City reviews certain types of projects, including those that may be constructed in the Specific Plan area, for compliance with the City's Grading Ordinance and the Subdivision Code (see Section 4.4, Hydrology and Water Quality, for additional information). In compliance with the federal Clean Water Act, (CWA) the City requires the submission of Stormwater Pollution Prevention Plan (SWPPP) for all construction activities involving more than 1 acre of land. The SWPPP, which must be prepared before the issuance of Building Permits and prior to the commencement of construction activities, will include specifications for best management practices (BMPs) that will be implemented during project construction to minimize runoff from the construction areas, including storage and maintenance areas and building materials handling areas.

Page 4.3-18, second bullet point in Mitigation Measure 4.3-3 is revised as follows:

- A vegetated buffer shall be protected during grading/earthmoving next to Larkspur Creek. This buffer shall be at least 50 feet wide from the top of the bank on the north/south reach of the creek at the eastern edge of the Specific Plan area, and at least 25 feet wide from the top of bank on the east/west reach of the creek at the southern edge of the Specific Plan area. The conditions of all development permits within Subarea 3 and all subsequent grading permits shall both specify that before the start of any grading, orange barrier fencing shall be installed at the outer edge of the protected buffer area. The fencing shall be maintained until all construction activities have ceased. No construction activity, including the storage of construction materials, or vehicles staging or maneuvering, shall be permitted in the buffer area~~.~~, except those activities to implement requirements of the San Francisco Bay Regional Water Quality Control Board for water treatment and stormwater detention facilities, such as grassy swales, and to implement the native plant restoration plan for upland habitat in the buffer area, as described in Mitigation Measures 4.5-2a and 4.5-2b of the DEIR.

Page 4.3-18 subparagraph (a) is revised as follows:

Damage to Underground Utilities Caused by Corrosive Soils.

(a) ~~Implement Mitigation Measure 4.3-4~~ Geotechnical Testing and Engineering Design Report that includes a Corrosive Soil Evaluation

The City shall include the following new policy in the Specific Plan:

The City ~~shall implement Mitigation Measure 4.3-4, Submit Geotechnical Testing and Engineering Design Report,~~ shall require the submittal of geotechnical testing and

engineering design reports that include evaluation of corrosive soils. ~~to mitigate the potential for damage to underground utilities from corrosive soils.~~

SECTION 4.4, HYDROLOGY AND WATER QUALITY

Page 4.4-6 First Paragraph is revised as follows:

A small portion of the Specific Plan area, in and adjacent to the concrete drainage ditch located in the north-western ~~part of the site~~portion of Subarea 3 (Exhibit 4.4-2), appears to be subject to tidal flooding during extreme tide events. This flood hazard is not shown on the FIRM map (Exhibit 4.4-1), but is hypothesized based on the storm drainage configuration and observations of flooding at high tide by persons familiar with the Specific Plan area. The ditch was observed by PWA staff to drain to a culvert under Doherty Drive, which then appears to be routed to an ungated outfall into a tidal channel, which connects to Corte Madera Creek. A nursery employee stated that extremely high tides "back up" in the concrete ditch, causing local flooding. Winter storm runoff may also contribute (see below).

Page 4.4-21, Mitigation Measure 4.4-6:

Implement Mitigation Measures ~~4.4-3~~ 4.3-3 and 4.4-5

The City shall include the following new policy in the Specific Plan.

New Policy: The City shall require implementation of Mitigation Measure ~~4.4-3~~ 4.3.3, Prepare and Implement SWPPP, and Mitigation Measure 4.4-5, Implement Groundwater Testing Program in Conjunction with Dewatering, for all development in the Specific Plan area in order to reduce the increase in pollutants conveyed to the groundwater table to a less than significant level and ensure that site dewatering for construction will not result in groundwater quality impacts.

SECTION 4.6, AIR QUALITY

Page 4.6-11, the first two full paragraphs are revised as follows:

Impact 4.6-5

Substantial Emissions of Dust and Diesel Exhaust during Construction and Remediation. *Dust generated by construction equipment and vehicles could be substantial, and could contribute to ambient PM_{10}. Construction equipment could also emit substantial amounts of diesel exhaust, which has been identified as a TAC. This impact is considered* ***potentially significant****.*

Construction and grading can create substantial amounts of dust. Once existing buildings within the Specific Plan area have been demolished, dust generated by construction equipment and vehicles could be significant. Fugitive dust is emitted during grading, trenching, and paving, and from wind erosion of exposed earth surfaces. Dirt tracked out onto nearby paved roads can be re-entrained into the

atmosphere by passing vehicles and contribute to ambient PM_{10}. In addition, contaminant-bearing dust may be generated during the site remediation phase of the construction activities.

Page 4.6-14 Third full paragraph is revised as follows:

Implementing fugitive dust control measures can greatly reduce adverse impacts. According to BAAQMD, estimating the amounts of construction dust from a particular project is at best imprecise. The air district prefers to evaluate construction dust significance by project size and proximity to sensitive receptors. Potential adverse impacts then determine which control measures will be implemented. The Specific Plan area is near existing sensitive receptors (residences, schools) and the dust generated may contain contaminants. ~~would, t~~Thus, construction activities need the most stringent control measures recommended by the BAAQMD. These measures, stated below, would reduce construction dust to the maximum extent feasible (by 70% or more). Therefore, the construction contractor shall implement all of the following measures:

Page 4.6-15 is revised as follows: Insert after item 11 of the numbered list:

12. Perform air monitoring during remediation activities. If deemed appropriate by the lead agency, DTSC, and/or BAAQMD conduct air monitoring through use of direct-reading instruments and collection of samples on the site. Prepare a Health and Safety Plan, which shall include air monitoring procedures. The Health and Safety Plan shall be reviewed and approved by the California Department of Toxic Substance Control.

SECTION 4.7, TRAFFIC AND CIRCULATION

Page 4.7-6, First Full Paragraph and Table 4.7-1 are revised as follows:

Saturday ADT volumes were lower than weekday volumes. Magnolia Avenue Downtown had 17% fewer vehicles on Saturday while Doherty Drive had almost 30% lower volumes. Overall, ADT volumes have decreased by just over ~~20~~17% on Magnolia Avenue compared to 1999 ADT data. ADT volumes on Doherty Drive have shown a modest 4% increase during weekdays and a decrease of 9% on weekends compared to 1999 ADT volumes. The overall decrease in daily vehicle traffic is most likely attributed to overall economic conditions, which have slowed over the past few years.

Table 4.7-1 Summary and Comparison of Average Daily Traffic Volumes		
Location	Weekday ADT (vehicles)	Saturday ADT (vehicles)
1999—Magnolia Downtown	15,680	12,940
2003—Magnolia Downtown	12,880	10,716
Percent Change	~~22~~-17.8	~~21~~-17.2
1999—Doherty Drive	11,410	8,990
2003—Doherty Drive	11,860	8,240
Percent Change	4	-9
Source: Marks Traffic Data Service 2003		

Page 4.7-12, Fourth Full Paragraph is revised as follows:

Scheduled transit service in Larkspur is provided by Golden Gate Transit and includes local and regional bus service between the North Bay and San Francisco, and ferry service to San Francisco. Bus stops located on Magnolia Avenue near Ward Street provide the nearest access to bus services from the Specific Plan area. Ferries depart from the Larkspur Ferry Terminal, and are serviced by ferry shuttle buses (free for ferry passengers).

Page 4.7-15, Fourth Full Paragraph is revised as follows:

Surveys of crosswalk activity at Hall Middle School and Redwood High School were conducted during the weekday morning and afternoon peak periods in May 2003. Results of the pedestrian counts are shown in Table 4.7-3. Hall Middle School typically is in session between 8:40 a.m. and 3:10 p.m. Monday through Friday with the exception of Wednesdays when classes are held from 9:00 a.m. to 3:10 p.m. Redwood High School starts at 8:00 a.m. and typically finishes at 3:10 p.m., with the exception of Thursdays when school ends at approximately 1:15 p.m. Table 4.7-3 shows volumes for 20-minute time periods. The volumes for the two high school crosswalks are combined. The crosswalk located at Lucky Drive and the back parking lot carries approximately 70% of the high school crosswalk activity.

Pages 4.7-18, Last Two Paragraphs, and 4.7-19, First Paragraph, and Table 4.7-5 are revised as follows:

Table 4.7-5 shows a summary of vehicle trip generation rates used in the assessment of the Specific Plan. The rates used are based on the ITE *Trip Generation*, 6th Edition (ITE 1997), and field surveys (May~~June~~ 2002) of large (~~4,000~~3,000-plus square feet) single-family homes. The ITE publication does not differentiate between large-sized ~~lot~~ and standard-sized ~~lot~~ single-family uses, nor does it provide trip generation rates for cottage and mixed-use residential land uses.

In order to gauge the potential traffic impact of the large-sized ~~lot~~ single-family homes (greater than 3,000 square feet) that are likely to be built where permitted due to market conditions, Wilbur Smith Associates conducted a 2-day field study of trip generation associated with single-family residential units that are 3,000 square feet or more (e.g., large homes in Corte Madera that are 4,000-plus square feet in size). The 7 study homes are located on a cul-de-sac, Verona Place, off Paradise Road east of U.S. 101. Vehicle trips traveling to and from the cul-de-sac were recorded on two consecutive weekdays during the 7:00 a.m. to 9:00 a.m. morning peak period and the 4:00 p.m. to 6:00 p.m. evening peak period.

Table 4.7-5
Summary of Specific Plan Vehicle Trip Rates

Land Use	Vehicle Trip Generation Rates		
	A.M. Peak Hour	P.M. Peak Hour	Daily
Large-sized ~~lot~~ Single-Family (unit)	1.10	1.52	14.3
Single-Family Homes (unit)	0.75	1.01	9.57
Multifamily Homes (unit)	0.56	0.76	7.18
Cottage Homes (unit)	0.56	0.76	7.18
Specialty Retail (1,000 SF)	1.03	2.59	40.67
Office (1,000 SF)	1.56	1.49	11.01
Hotel/Inn (room)	0.56	0.61	8.23
Community Center (1,000 SF)	1.32	1.75	22.88

Source: Institute of Transportation Engineers 1997, Wilbur Smith Associates Surveys (June 2002); Wilbur Smith Associates 2003.

Page 4.7-25, Table 4.7-9 is revised as follows:

Table 4.7-9 Specific Plan Share of Existing and Future Peak Hour Intersection Volumes					
Intersections	Existing Plus Specific Plan	Specific Plan Volume	Specific Plan Percent	Existing Plus Cumulative Plus Specific Plan	Specific Plan Percent
a.m. Peak Hour					
3. East Ward Street/Magnolia Avenue	1,412	105	7.4	1,707	6.2
4. King Street/Magnolia Avenue	~~1,445~~1,129	~~53~~43	~~3.7~~3.8	~~1,369~~1,359	~~3.9~~3.2
7. Doherty Drive/Riviera Circle	1,347	59	4.4	1,677	3.5
10. Fifer Avenue /Tamal Vista Boulevard	1,679	59	3.5	2,150	2.7
11. Wornum Drive /Tamal Vista Boulevard	1,206	21	1.7	1,623	1.3
5. Doherty Drive/Larkspur Plaza	1,217	79	6.5	1,561	5.1
6. Doherty Drive/Piper Park	1,128	63	5.6	1,450	4.3
p.m. Peak Hour					
3. East Ward Street/Magnolia Avenue	1,714	223	13.0	1,995	11.2
4. King Street/Magnolia Avenue	1,181	79	6.7	1,397	5.7
7. Doherty Drive/Riviera Circle	1,584	99	6.3	1,822	5.4
10. Fifer Avenue /Tamal Vista Boulevard	1,745	99	5.7	2,115	4.7
11. Wornum Drive /Tamal Vista Boulevard	1,650	55	3.3	2,057	2.7
5. Doherty Drive/Larkspur Plaza	1,295	125	9.7	1,551	8.1
6. Doherty Drive/Piper Park	1,153	111	9.6	1,433	7.7
Source: Wilbur Smith Associates (2003)					

Page 4.7-34, Last Two Paragraphs are revised as follows:

Impact **4.7-7**

Construction-Related Traffic. *During the construction phase of future development projects, roadway closure and construction vehicle trips would potentially cause traffic interruption and may result in unsafe conditions for drivers, passengers, bikers, and pedestrians. While the City Code requires traffic control during construction activities it does not define the specific measures that would ensure human safety and convenience. This is a* ***potentially significant*** *impact.*

With the exception of remediation activities, s~~S~~pecific information on construction activities that may occur within the Specific Plan area is currently not available. Pursuant to RAW, site remediation would require the excavation and offsite disposal of approximately 900 cubic yards of contaminated soil. Clean fill would be brought to Subarea 3 to backfill excavation areas. An estimated 100 truck trips would be needed to transport contaminated soil from and clean fill to Subarea 3 over a period of one to two weeks. In addition, remediation activities would generate trips by workers and visitors. Other c~~C~~onstruction-related activities would typically occur Monday through Friday from 7:00 a.m. to 5:00 p.m. Specifications would include restrictions on noise and dust, and construction activities would be strictly monitored due to the proximity of schools

and businesses in the area. Construction staging and storage of equipment and materials would likely occur on the construction sites. It is not anticipated that any traffic lanes or sidewalks on either Magnolia Avenue or Doherty Drive would need to be closed during the construction duration. However, if construction activities were to result in the extended, temporary closure

Page 4.7-39, Table 4.7-13, is revised as follows:

Table 4.7-13
Existing Plus Cumulative (No Specific Plan) and Existing Plus Cumulative Plus Specific Plan Conditions Intersection Level of Service

Intersections	Existing Plus Cumulative (No Specific Plan)				Existing Plus Cumulative Plus Specific Plan			
	a.m. Peak Hour		p.m. Peak Hour		a.m. Peak Hour		p.m. Peak Hour	
	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Signalized Intersection (LOS A-D are acceptable)								
1. Bon Air Road/Magnolia Avenue	B	9.3	B	11.4	B	9.3	B	11.6
2. Doherty Drive/Magnolia Avenue	B	12.1	B	14.4	B	12.7	C	18.0
3. East Ward Street/Magnolia Avenue	**F**	**	**F**	**	**F**	**	**F**	**
10. Fifer Avenue /Tamal Vista Boulevard	C	23.5	**E**	**57.1**	B	6.4	B	10.3
11. Wornum Drive /Tamal Vista Boulevard***	C	25.1	**F**	**70.5**	D	26.3	**F**	**81.2**
12. Wornum Drive/Redwood Highway	B	8.4	B	12.6	B	8.5	B	12.8
13. 101 NB On-Ramp/Industrial	B	5.6	C	17.8	B	5.6	C	18.1
Unsignalized Intersection (LOS A-C are acceptable)								
4. King Street/Magnolia Avenue	**E**	**30.9**	**F**	**	**E**	**34.5**	**F**	**
5. Doherty Drive/Larkspur Plaza*	**F**	**52.2**	**E**	**43.2**	B*	6.9	B*	9.1
6. Doherty Drive/Piper Park****	**D**	**24.1**	C	19.6	**D**	**25.8**	**D**	**21.8**
7. Doherty Drive/Riviera Circle	**E**	**36.6**	**E**	**41.1**	**E**	**40.0**	**E**	**44.9**
8. Lucky Drive/Doherty Drive	C	12.8	~~B~~C	~~9.2~~ 10.7	C	~~14.6~~ 15.1	~~B~~C	~~9.5~~ 13.6
9. Lucky Drive/Fifer Avenue	C	12.1	C	14.1	C	12.2	C	15.5

Notes: Delay is in average seconds per vehicle
LOS = Level of Service
* Assumes intersection would be signalized with implementation of Specific Plan.
** Exceeds 120 seconds delay
*** The improvement ot the intersection of Wornum Drive/Tamal Vista Boulevard has been under construction and may be completed by the end of 2003.
**** Assumes no signalization improvements under either scenario.
Bold = unacceptable operations
NA = Not available
Source: Wilbur Smith Associates (May 2003)

Page 4.7-43, First Paragraph and Bullets immediately following are revised as follows:

New Policy: Construction contractor(s) in the Specific Plan area shall be required to prepare a detailed construction management plan(s) prior to beginning work within the Specific Plan area. The plans shall provide information related to duration of the construction, size of work force, average daily truck deliveries, proposed truck routes to and from the construction site, and hours/days of operation. For remediation activities only, the construction management plan, which may also a part of an Implementation Plan, shall be reviewed and approved by the California Department of Toxic Substances Control. For all construction activities, t~~T~~he construction management plans shall include traffic control measures specific to each construction site and vicinity; such measures may include the following:

- Preparation and filing of a detailed construction management plan by the contractor.
- Provision of on-site staging area for all equipment and material deliveries
- Provision of on-site parking for construction work force.
- To the extent possible, control of delivery truck activity to off-peak periods.
- Use of a flag person as needed during the heaviest construction periods.
- For remediation activities, provision of information regarding the routes to be used during transport of contaminated soil, the facility where contaminated soil is to be disposed, hours during which excavation will occur, traffic control and loading procedures, and contingency measures in the case of spills or accidents. All transportation of contaminated soil during remediation activities shall comply with California Health and Safety Code §25160 and Title 22 of the California Code of Regulations §66263, which establish standards for the safe transportation of hazardous waste.

Page 4.7-43, Mitigation Measure 4.7-9 is revised as follows:

Impact 4.7-9 mitigation

Unacceptable Cumulative Level of Service at East Ward Street/Magnolia Avenue Intersection.

Expand Mitigation Measure 4.7-2 to Add an Additional Northbound ~~Left~~Right Turn Lane at ~~King~~ East Ward Street/Magnolia Avenue.

A northbound ~~Left~~right-turn lane shall be created at this intersection with the removal of approximately two to three parking spaces from the east curb face of Magnolia Avenue located directly south of East Ward Street. Under Existing Plus Cumulative Plus Specific Plan conditions and upon completion of the proposed mitigation measure the intersection would operate acceptably at LOS C during the a.m. and p.m. peak hours. This mitigation would reduce the impacts to levels that are less than significant.

SECTION 4.9, PUBLIC SERVICES AND UTILITIES

Page 4.9-1, Table 4.9-1 is revised as follows:

Table 4.9-1
School Capacity and Enrollment, 2002-2003 School Year

School	Grades	Enrollment	Capacity	Difference
Neil Cummins Elementary School	K-5	~~634*~~ 647*	~~701*~~ 724*	~~-60~~ -77
Henry C. Hall Middle School	6-8	~~316*~~ 347*	~~391*~~ 456*	~~-75~~ -109
Redwood High School	9-12	1,446	1,900	-454

*School district-estimated capacity numbers.
Sources: Toukonen, pers. comm., 2003; Winkler, ~~pers. comm., 2003~~ Comment Letter, February 12, 2004

Page 4.9-6, Second full paragraph:

~~The Larkspur School District estimated that an additional 60 students would be able to attend Neil Cummins Elementary School and 75 students would be able to attend Hall Middle School (Winkler, pers. comm., 2003)~~ As shown in Table 4.9-1, Neil Cummins Elementary School has capacity for additional 77 students and Henry C. Hall Middle School has capacity for additional 109 students. As shown in Table 4.9-2, the maximum residential development permitted in the Specific Plan area is anticipated to add up to 50 elementary and middle school students. The resulting enrollment would be less than the estimated student capacity, and no new school facilities would be required in order to serve the development that would be in the Specific Plan area. The Larkspur School District is currently conducting a demographic study to assess whether its existing facilities are sufficient to accommodated projected increases in enrollment. It has given notice to end the lease of San Clemente School, which the Larkspur School District currently owns and leases to a private school. With the end of the lease, Larkspur School District would have additional capacity to accommodate new students. No newly constructed school facilities would be needed to serve new development in the Specific Plan area. Therefore, no physical impacts associated with the construction or expansion of school facilities in the Larkspur School District would occur as a result of development under the Specific Plan.

SECTION 4.10, VISUAL QUALITY AND AESTHETICS

Page 4.10-7, Fourth and Fifth Paragraphs are revised as follows:

Policy 9. Creek Resources. Protect and enhance the natural and scenic values of Larkspur Creek ~~and make the creekside corridor accessible for passive use by the entire community~~. (Require that permanent fencing be installed along the outside edge of the buffer to discourage people and their pets from entering the restored creekside habitat.

Passive community use may instead be established near the Larkspur Creek corridor but not within the buffer area.)

Policy 10. Open Space Network. Integrate the area's major natural elements (the creek, creekside vegetation, and heritage trees) with a system of pedestrian and bicycle routes to define the entire area visually and tie the individual parcels together into a site-wide open space network. Prohibit pedestrian and bicycle paths from being located within the Larkspur Creek buffer and require that permanent fencing be installed along the outside edge of the buffer to discourage people and their pets from entering the restored creekside habitat. Pedestrian and bicycle routes may be established near the Larkspur Creek corridor but not within the buffer area.)

SECTION 4.11, CULTURAL RESOURCES

Page 4.11-5, the last sentence in the first paragraph is deleted as follows:

~~More extensive testing, to be done by Holman & Associates at the request of the City, will take place before the Final EIR is completed to refine information regarding spatial extent, content, and NRHP or CRHR eligibility of the deposits.~~

Page 4.11-5, Last Paragraph (and continuing to Page 4.11-6) is revised as follows:

"The buildings that once housed the Northwestern Pacific Railroad station and warming house located in the southwestern portion of the Specific Plan area were built in 1929 to replace the original Northwestern Pacific Railroad station, which was built in 1891, and were used to support railroad operations until the station was closed in 1941."

Page 4.11-10, Mitigation Measure 4.11-2a is revised as follows:

Impact 4.11-2a, b mitigation

Potential Damage to or Destruction of Archaeological Resources.

(a) Implement Archaeological Testing Program

The City shall include the following new policy in the Specific Plan.

New Policy: An archaeological subsurface testing program to delineate and define the elements of CA-MRN-68 shall be implemented before the beginning of ~~construction~~ excavation activities or other activities that may disturb the resources. The archaeologist will make a preliminary assessment of NRHP and CRHR eligibility based on the results of the testing. If CA-MRN-68 is found to be potentially eligible for listing, then destruction of this site must be avoided.

Page 4.11-11, First Paragraph, Second Sentence is revised as follows:

In the event that any archaeological resources are uncovered within the Specific Plan area during future remediation or construction activity associated with the

implementation of the Specific Plan, there shall be no further excavation or disturbance of the archaeological site or any nearby area until the archaeologist has evaluated the find and appropriate site-specific mitigation has been identified ~~to protect, preserve, remove, or restore the artifacts uncovered~~ consistent with CEQA §21083.2(b)(3) or (4) and CEQA Guidelines §15126.4(b)(3).

Page 4.11-12, Last Paragraph is revised as follows:

Following implementation of the above mitigation measures, Impacts ~~4.11-2 and~~ 4.11-3 would remain significant and unavoidable. Following implementation of the above mitigation measures, Impacts 4.11-2 would remain significant and unavoidable if archaeological resources are found in the subsurface testing program, and destruction of the archaeological resources cannot be avoided. Otherwise Impact 4.11-2 would be less than significant with the implementation of the mitigation measure. If human remains are found during construction, and development of the site cannot be avoided, then Impact 4.11-5 would also remain significant and unavoidable. These impacts would also constitute a considerable contribution to cumulative cultural resources impacts.

SECTION 4.12, HAZARDS AND HAZARDOUS MATERIALS

Page 4.12-6 Second Paragraph is revised as follows:

Based on the review of the Health Based Risk Assessment, DTSC required that portions of the Niven Nursery site be remediated by the removal of contaminated soil to reduce the health risk to an acceptable level. A Removal Action Workplan (RAW) was then developed for the site (ENSR International 2002) to specify the areas requiring soil remediation and the extent of soil removal necessary. A RAW is a remedy selection document that can be prepared for a hazardous substance release pursuant to California Health and Safety Code §25356. It is prepared when a nonemergency action or remedial action is projected to cost less than $1 million. A draft of the RAW was submitted to DTSC for review and comment, and the document was updated with respect to the review. As part of the process of finalizing the RAW, DTSC must comply with CEQA, and intends to use this EIR for that purpose. ~~A preliminary draft of this Revised Draft EIR was reviewed by DTSC, and their comments were incorporated into the document~~. The various steps taken in the investigation, evaluation, and proposed remediation of the Niven Nursery site (Subarea 3) are described below under Environmental Site Investigations and Assessments.

Page 4.12-12 First Paragraph under Health-Based Risk Assessment heading is revised as follows:

ENVIRON performed a human health risk assessment (ENVIRON 2002) (Appendix H-3~~H-5~~) to determine whether the development of Subarea 3 would pose any risk to the health of people expected to be living and working at the site under a future residential land redevelopment scenario. Soils, sediment, and groundwater samples

were analyzed; the risk assessment methods and assumptions used were developed or recommended by Cal/EPA and EPA for use when residential land use is anticipated.

Page 4.12-21, First Paragraph, First Sentence is revised as follows:

Shallow groundwater may be encountered in excavations for remedial activities and for utilities and foundations during construction in Subarea 3, necessitating dewatering.

Page 4.12-24, First Paragraph is revised as follows:

New Policy: Site surveys for the presence of potentially hazardous building materials shall be reviewed/performed, and a demolition plan for safe demolition of existing structures in Subarea 3 shall be proposed by the developer and incorporated into the project prior to the issuance of construction permits and implemented during construction activities. The demolition plan shall address protection of both onsite workers, offsite residents, and occupants in nearby schools from chemical and physical hazards. The demolition plan shall reference, and include by this reference, all provisions of the Removal Action Plan and Healthy and Safety Plan for Subarea 3 as approved by DTSC. The demolition plan shall be reviewed ~~and approved~~ by DTSC and the City. A demolition permit shall be obtained from the Bay Area Air Quality Management District (BAAQMD), which would review the demolition plan prior to issuance of a permit. All contaminated building materials shall be tested for contaminant concentrations and shall be disposed of at appropriate licensed landfill facilities. Before demolition, hazardous building materials such as peeling, chipping, and friable lead-based paint, window glazing, and building materials containing asbestos shall be removed in accordance with all applicable guidelines, laws, and ordinances. The Demolition Plan shall include a program of air monitoring for dust particulates and attached contaminants. Dust control and suspension of work during dry windy days shall be addressed in the Demolition Plan. Before a demolition permit is obtained from the BAAQMD, an asbestos demolition survey shall be conducted in accordance with the requirements of BAAQMD Regulation 11, Rule 2.

Page 4.12-25, Text Following the Third Bullet is revised as follows:

Impact **4.12-3** mitigation

Exposure to Hazardous Materials during Removal of Contaminated Soil.

Implement Removal Action Workplan and Health and Safety Plan.

The City shall include the following new policy in the Specific Plan.

New Policy: The RAW developed for Subarea 3, under the oversight of DTSC, shall be incorporated into the project prior to the issuance of construction permits and implemented during construction activities. The workplan includes provisions for safe removal, transportation, and disposal of selected contaminated soil from Subarea 3. Removal of contaminated soils from the

areas identified would reduce the cancer risk to less than 2~~1~~ in 1 million. In compliance with the RAW, approved by DTSC, ~~C~~clean fill shall also be placed over much of Subarea 3, further reducing the potential for exposure of people to residual soil contamination. A detailed Health and Safety Plan shall be prepared to address measures to protect workers and the community during remedial activities, and shall be reviewed and approved by DTSC.

Page 4.12-26, Last Sentence of the New Policy in Mitigation Measure 4.12-6 is revised as follows:

The developer shall prepare and submit t~~T~~hese plans, which ~~must~~ shall be approved by the City prior to the issuance of construction permits. ~~, shall address approved routes, truck cleaning and inspection, and contingencies for addressing spills and other accidents.~~ The details of approved truck routes, truck cleaning and inspection, and contingencies in case of spills or accidents shall be addressed in an Implementation Plan that is to be reviewed and approved by DTSC prior to remediation of Subarea 3. The Implementation Plan shall include a Health and Safety Plan, Transportation Plan and Contingency Plan in accordance with Title 8 of the California Code of Regulations section 5192, California Health Safety Code Section 25160 and Title 22 of the California Code of Regulations Section 66236 to assure that all remediation activities are protective of human health and the environment

CHAPTER 6, ALTERNATIVES

Page 6-6, Table 6-2 is revised as follows:

Table 6-2
Intersection Levels of Service: Proposed Project Versus No Project Alternative

Intersections	Existing Plus Cumulative Plus Proposed Project				Existing Plus Cumulative Plus No Project Alternative			
	A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
1. Bon Air Road/Magnolia Avenue	B	9.3	B	11.6	B	9.3	B	11.4
2. Doherty Drive/Magnolia Avenue	B	12.7	C	18.0	B	12.1	B	14.4
3. East Ward Street/Magnolia Avenue	**F**	**	**F**	**	**F**	**	**F**	**
4. King Street/Magnolia Avenue	**E**	**34.5**	**F**	**	**E**	**30.9**	**F**	**
5. Doherty Drive/Larkspur Plaza	B	6.9	B	9.1	**F**	**52.2**	**E**	**43.2**
6. Doherty Drive/Piper Park***	**D**	**25.8**	**D**	**21.8**	**D**	**24.1**	C	19.6
7. Doherty Drive/Riviera Circle	**E**	**40.0**	**E**	**44.9**	**E**	**36.6**	**E**	**41.1**
8. Lucky Drive/Doherty Drive	C	~~14.6~~ 15.1	~~B~~C	~~9.5~~ 13.5	C	12.8	~~B~~C	~~9.2~~ 10.7
9. Lucky Drive/Fifer Avenue	C	12.2	C	15.5	C	12.1	C	14.1
10. Fifer Avenue/Tamal Vista Boulevard	C	24.4	**F**	**74.4**	C	23.5	**E**	**57.1**

Table 6-2 Intersection Levels of Service: Proposed Project Versus No Project Alternative								
Intersections	Existing Plus Cumulative Plus Proposed Project				Existing Plus Cumulative Plus No Project Alternative			
	A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
11. Wornum Drive/Tamal Vista Boulevard****	D	26.3	**F**	**81.2**	C	25.1	**F**	**70.5**
12. Wornum Drive/Redwood Highway	B	8.5	B	12.8	B	8.4	B	12.6
13. 101 Northbound On-ramp/Industrial	B	5.6	C	18.1	B	5.6	C	17.8

Notes:
Delay is in average seconds per vehicle
LOS = Level of Service
** = exceeds 120 seconds delay
*** = Assumes no ~~improvement~~ change (e.g., addition of driveway from Specific Plan area) to Doherty Drive/Piper Park intersection would be implemented under ~~both the Proposed Project Alternative and~~ the No Project Alternative.
**** = The improvement to the intersection of Wornum Drive/Tamal Vista Boulevard has been under construction and may be completed by the end of 2003.
Bold = unacceptable operations

Page 6-9, First Paragraph is revised as follows:

This alternative would enable the development of the Specific Plan area at considerably lower residential and commercial densities than anticipated under the Proposed Project, with a higher proportion of detached, single-family homes and less clustering of housing units. Under this alternative, Subarea 1 could support up to 12 multifamily apartment units, including up to six new multifamily apartment units above commercial uses. Subarea 1 could also support 9,900 square feet of new retail development and a smaller, 20-room hotel. An additional 4,500 square feet of retail development is assumed to be developed in Subarea 2, but no residential units would be developed in this subarea. Subarea 3 would support 45 residential units and a 10,000-square-foot community center. The residential unit mix in this subarea under the Low Density Alternative is composed of 30 large single-family homes, 10 standard single-family homes, five cottage homes, and no multifamily apartment units. All Specific Plan policies and standards are assumed to remain as proposed. All Specific Plan policies and requirements related to the maintenance of adequate creek setbacks, the preservation of historic structures, and the development of parks and a community-oriented open space would remain in force under this alternative. Amendment to the General Plan may be required to allow for the change in land use density and intensity.

Page 6-12, Table 6-3 is revised as follows:

Table 6-3
Cumulative Intersection Levels of Service: Proposed Project Versus Low Density Alternative

	Existing Plus Cumulative Plus Proposed Project				Existing Plus Cumulative Plus Low Density Alternative			
	AM Peak Hour		PM Peak Hour Hour		AM Peak Hour		PM Peak Hour Hour	
Intersections	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
1. Bon Air Road/Magnolia Avenue	B	9.3	B	11.6	B	9.3	B	8.4
2. Doherty Drive/Magnolia Avenue	B	12.7	C	18.0	B	12.3	B	14.6
3. East Ward Street/Magnolia Avenue	**F**	**	**F**	**	**F**	**	**F**	**
4. King Street/Magnolia Avenue	**E**	**34.5**	**F**	**	**E**	**33.1**	**F**	**
5. Doherty Drive/Larkspur Plaza	B	6.9	B	9.1	B	5.3	B	8.1
6. Doherty Drive/Piper Park ~~(1)~~	**D**[1]	**25.8**	**D**[1]	**21.8**	C[1]	12.2	C[1]	17.3
7. Doherty Drive/Riviera Circle	**E**	**40.0**	**E**	**44.9**	**E**	**42.7**	**D**	**21.9**
8. Lucky Drive/Doherty Drive	C	~~14.6~~ 15.1	~~B~~C	~~9.5~~ 13.5	C	~~17.4~~ 13.7	C	~~10.0~~ 12.0
9. Lucky Drive/Fifer Avenue	C	12.2	C	15.5	C	0.5	C	1.0
10. Fifer Ave/Tamal Vista Boulevard	C	24.4	**F**	**74.4**	D	26.4	**E**	**55.2**
11. Wornum Drive/Tamal Vista Boulevard***	D	26.3	**F**	**81.2**	D	25.4	**F**	**
12. Wornum Drive/Redwood Highway	B	8.5	B	12.8	B	9.2	C	18.0
13. 101 NB On Ramp/Industrial	B	5.6	C	18.1	B	5.5	C	22.2

Notes:
Delay is in average seconds per vehicle
LOS = Level of Service
** = Exceeds 120 seconds delay
*** = The improvement to the intersection of Wornum Drive/Tamal Vista Boulevard has been under construction and may be completed by the end of 2003.
~~[1] Assumes Doherty Drive/Piper Park Improvement would be implemented for Low Density Alternative but not under Proposed Project.~~

Page 6-14, Last Paragraph (continuing to Page 6-15) is revised as follows:

The Residential Focus Alternative would allow development of the Specific Plan area at a higher residential density than would the Proposed Project, with a higher proportion of attached, multifamily homes and greater clustering of housing units (see Table 6-1). Commercial density would be lower. Under the Residential Focus Alternative, Subarea 1 would support up to 44 multifamily apartment units, 12,000 square feet of commercial uses, and a 30-room hotel. Subarea 2 would be redeveloped with 46 multifamily apartment units. Subarea 3 would contain 32 large single-family homes, 11 standard single-family homes, 35 cottage homes, and 27 multifamily units. Similar to the Proposed Project, a community center is not included in this scenario. All Specific Plan related policies and standards are assumed to remain as proposed, and all Specific

Plan policies and requirements related to the maintenance of adequate creek setbacks, the preservation of historic structures, and the development of parks and a community-oriented open space would remain in force under this alternative. Amendment to the General Plan may be required to allow for the change in land use density and intensity.

Page 6-17, First Full Paragraph, First Sentence is revised as follows:

~~As indicated in Table 6-1, t~~The Residential Focus Alternative would generate an estimated 2,716 daily vehicle trips, with 158 in the a.m. peak hour and 224~~237~~ in the p.m. peak hour (see Table 6-1).

Page 6-18, Table 6-4 is revised as follows:

Table 6-4
Cumulative Intersection Levels of Service: Proposed Project Versus Residential Focus Alternative

	Existing Plus Cumulative Plus Proposed Project				Existing Plus Cumulative Plus Residential Focus			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersections	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
1. Bon Air Road/Magnolia Avenue	B	9.3	B	11.6	B	9.6	B	8.5
2. Doherty Drive/Magnolia Avenue	B	12.7	C	18.0	B	12.6	C	16.1
3. East Ward Street/Magnolia Avenue	**F**	**	**F**	**	**F**	**	**F**	**
4. King Street/Magnolia Avenue	**E**	**34.5**	**F**	**	**E**	**35.3**	**F**	**
5. Doherty Drive/Larkspur Plaza	B	6.9	B	9.1	B	5.6	B	10.2
6. Doherty Drive/Piper Park[+]	**D[+]**	**25.8**	**D[+]**	**21.8**	C[+]	12.6	C[+]	18.4
7. Doherty Drive/Riviera Circle	**E**	**40.0**	**E**	**44.9**	**F**	**46.0**	**D**	**24.8**
8. Lucky Drive/Doherty Drive	C	~~14.6~~ 15.1	~~B~~C	~~9.5~~ 13.5	C	~~18.0~~ 14.5	C	~~10.4~~ 13.1
9. Lucky Drive/Fifer Avenue	C	12.2	C	15.5	C	0.5	C	1.0
10. Fifer Avenue/Tamal Vista Boulevard	C	24.4	**F**	**74.4**	D	26.9	**F**	**60.3**
11. Wornum Drive/Tamal Vista Boulevard	D	26.3	**F**	**81.2**	D	25.8	**F**	**
12. Wornum Drive/Redwood Hwy	B	8.5	B	12.8	B	9.2	C	18.0
13. 101 NB On Ramp/Industrial	B	5.6	C	18.1	B	5.5	C	22.6

Notes:
Delay is in average seconds per vehicle
LOS = Level of Service
** = Exceeds 120 seconds delay
~~[+] Assumes implementation of improvement of Doherty Drive/Piper Park intersection for Residential Focus Alternative but not for Proposed Project.~~

Page 6-25, Table 6-5 is revised as follows:

Table 6-5 Comparison of Project and Alternatives				
Environmental Issues	Specific Plan	Alternatives		
		No Project Alternative	Lower Density Alternative	~~Higher Density~~ Residential Focus Alternative
Land Use and Planning	LTS	Similar	Similar	Similar
Housing and Population	LTS	Similar*	Similar*	Similar
Geology and Soils	PS/LTS	Less	Similar	Similar
Hydrology and Water Quality	PS/LTS	Less	Similar	Similar
Biological Resources	PS/LTS	Less	Similar	Similar
Air Quality	PS/LTS	Less	~~Similar~~Less	Greater
Traffic and Circulation	PS/LTS	Less***	Less	Less**
Noise	PS/LTS	Less	Less	Less
Public Services and Utilities	LTS	Similar	Similar	Similar
Visual Quality and Aesthetics	LTS	Less	Similar	Similar
Historical, Cultural and Archaeological	SU	Less	Similar	Similar
Hazards and Hazardous Materials	PS/LTS	Less	Similar	Similar
Totals				
Greater Impacts		0	0	1
Less Impacts		9	~~2~~3	2
Similar Impacts		3	~~10~~9	9

LTS = Less than Significant Impact (no mitigation required)
PS/LTS = Less than Significant after Mitigation
SU = Significant and Unavoidable Impact (no mitigation available to reduce the impact to a less-than significant level)
* Although not an environmental impact, the No Project and Low Density Alternatives would contribute less to assisting the City in meeting its "fair share" of the regional housing need, as required by the Housing Element of the General Plan, and would not add to the supply of housing that might be available for those in the local work force.
** May be SU if City chooses not to install signal at Doherty Drive/Piper Park because of low traffic volumes.
*** May be SU if no improvements are implemented at Doherty Drive/Piper Park.

4 REFERENCES

4.1 PRINTED REFERENCES

Association of Bay Area Government (ABAG) 1995. *Manual of Standards for Erosion and Sediment Control Measures. Second Edition.* May 1995.

California Department of Transportation (Caltrans). 1992 (April). State of California Department of Transportation Traffic Manual. Issued by the Department of Transportation.

City of Larkspur. 1998. Larkspur Citywide Traffic Study.

City of Larkspur. 2003. The City of Larkspur Police Department Yearly Traffic Report.

ENSR International. 2002. *Draft Removal Action Workplan, Niven Nursery, 2 Ward Street, Larkspur, California.*

Federal Transit Administration (FTA). 1995 (April). *Transit Noise and Vibration Impact Assessment Guidelines.*

Friends of Corte Madera Creek Watershed. 2004. Letter to Bob Pendoley, City of Larkspur regarding Central Larkspur Specific Plan DEIR. January 7, 2004.

Illingsworth & Rodkin, Inc. 2002 (May). Central Larkspur Specific Plan Environmental Noise Assessment. Prepared for Lamphier & Associates.

Institute of Transportation Engineers (ITE). 1997. *Trip Generation, 6th Edition.*

Marin County. 2000. County Department of Public Works' Hydrology Manual Simplified Instructions.

Marin Municipal Water District. 2004. Water Conservation. <http://www.marinwater.org/waterconservation.html> Accessed April 14, 2004.

Metropolitan Transportation Commission (MTC) 1999. San Francisco Bay Area Regional Demographic and Travel Characteristics website. <http://www.mtc.ca.gov/datamart/stats/baydemo.htm> Updated October 11, 1999. Accessed May 31, 2004.

Non-Profit Housing Association of Northern California (NPH). 2004. Planning for Residential Park: A Guide for Housing Developers and Planners website. <http://www.nonprofithousing.org/actioncenter/toolbox/parking/index.atomic> Accessed August 27, 2004.

U.S. Environmental Protection Agency (EPA). 1971. Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances.

U.S. Naval Observatory Astronomical Applications Department. 2004 (May). Phases of the Moon website. <http://aa.usno.navy.mil/data/docs/MoonPhase.html#y2002> Accessed May 8, 2004.

4.2 PERSONAL COMMUNICATIONS

Johnson, Debra. Assistant Public Works Director, Town of Corte Madera. Personal communication with Bob Pendoley, City of Larkspur, regarding traffic signal adjustments. August 25, 2004.

McDuffy, Mike. Sergeant, Twin Cities Police Department. Personal communication with Steven Huang, EDAW, regarding accident rates at three Doherty Drive intersections. September 9, 2004.

Pendoley, Robert. Contract Planner, City of Larkspur. Personal communication with Steven Huang, EDAW, regarding traffic impact fees, historic district, and other issues. Various dates in May 2004.

Pogason, Peggy. Redwood High School. Personal communication with Steven Huang, EDAW, Inc. regarding school schedule. September 1, 2004.

Schulte, Fritz. District Manager, Ross Valley Sanitary District #1. Personal communication with Bob Pendoley, City of Larkspur. August 25, 2004.

Shapiro, Jane. Hall Middle School. Personal communication with Steven Huang, EDAW regarding school schedule. September 1, 2004.

Svinth, Fred. Illingworth & Rodkin. Personal communication with Bob Pendoley, City of Larkspur. August 25, 2004.

Winkler, Jeff. Larkspur School District. Personal communication (letter) with Nancy Kaufman, City of Larkspur regarding 2004-2005 enrollment and capacity. June 28, 2004.

Zadrahnik, Alan R. Planning Director, Golden Gate Bridge, Highway and Transportation District. Personal communication with Steven Huang, EDAW regarding bus service capacity. May 28, 2004.

5 DOCUMENT PREPARERS

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APPENDIX A-2

LETTERS FROM GOVERNOR'S OFFICE OF PLANNING AND RESEARCH, STATE CLEARINGHOUSE (DECEMBER 23, 2003 AND FEBRUARY 13, 2004)

Arnold
Schwarzenegger
Governor

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit

Jan Boel
Interim Deputy
Director

Memorandum

Date: December 23, 2003

To: All Reviewing Agencies

From: Scott Morgan, Associate Planner

Re: SCH # 2001112092
Central Larkspur Specific Plan

RECEIVED
JAN 05 2004

Pursuant to the attached letter, the Lead Agency has extended the review period for the above referenced project to February 12, 2004 to accommodate the review process. All other project information remains the same.

cc: Nancy Kaufman
City of Larkspur
400 Magnolia Avenue
Larkspur, CA 94939

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
(916)445-0613 FAX(916)323-3018 www.opr.ca.gov

sch # 2001112092

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DEC 19 2003
STATE CLEARING HOUSE

Notice of Extension of Public Review Period for the Revised Draft Environmental Impact Report Central Larkspur Specific Plan

The City of Larkspur announces that the Public Review Period for the Revised Environmental Impact Report for the Central Larkspur Specific Plan (CLASP) has been extended to Thursday, February 12, 2004. *The Draft EIR is a revised version of an EIR that was circulated in 2002. Responses to comments on the 2002 Draft EIR will not be published. Interested individuals and agencies are invited to comment on the Revised Draft EIR.*

A copy of the Executive Summary from the Revised Draft Environmental Impact Report (Draft EIR) is attached for your information. The Executive Summary includes the location of the Specific Plan Area, a summary description of the project, and a very brief explanation of the Draft EIR. Table 3-1 referred to in the Executive Summary is available, with the full Draft EIR, on the City's web site: www.ci.larkspur.ca.us .

Availability and Public Review Period: Copies of the Revised Draft EIR and Draft Specific Plan are also available for review at the locations listed below during normal business hours. Reference documents are also available for review at the Larkspur Planning Department. (Please note that the City offices will be closed and the Library will have reduced hours during the winter holidays, please call the Customer Service Counter at (415) 927-5110 or check the City's website for revised hours).

Larkspur Planning Department City Hall 400 Magnolia Avenue Larkspur, CA 94939	Larkspur City Library City Hall 400 Magnolia Avenue Larkspur, CA 94939

Copies of the EIR and Plan are available for purchase at the Customer Service Counter at the City Hall Office noted above.

The City of Larkspur Planning Commission will hold **two formal public hearings** to receive comments on the Revised Draft EIR at the following time and place:

Date: **Wednesday, January 14, 2004**	**Date:** **Tuesday, February 3, 2004**
Time: **7:30 p.m.**	**Time:** **7:30 p.m.**
Place: **City Council Chamber, City Hall**	**Place:** **City Council Chamber, City Hall**

Comments on the Revised Draft EIR may be provided at the public hearings noted above, or may be submitted in writing, **no later than 5:00 p.m. on Thursday, February 12, 2004**, to:

Robert Pendoley, Project Manager
Planning Department
City of Larkspur
400 Magnolia Avenue
Larkspur, CA 94939

3 EXECUTIVE SUMMARY

3.1 INTRODUCTION

This Revised Draft Environmental Impact Report (EIR) evaluates the potential environmental impacts that may be associated with the implementation of the Central Larkspur Specific Plan (Specific Plan) by the City of Larkspur (City). The Revised Draft EIR is intended to "identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided" (California Environmental Quality Act (CEQA), Public Resources Code [CEQA] 21002.1(a)).

An EIR is meant to provide an objective, impartial source of information to be used by the lead agency and members of the public in their considerations of the project. The EIR itself does not determine whether or not the project will be approved, but only serves as an informational document in the local planning and decision-making process.

This document has been prepared as a "program" EIR, rather than as a more detailed "project" EIR. The Specific Plan does not propose any individual projects, but instead provides a framework for future development within the Specific Plan area. Because of the Specific Plan's general (rather than project-specific) focus, the use of a "program" EIR is appropriate in reviewing the environmental impacts that may be associated with implementation of the Specific Plan. Although the Specific Plan establishes density ranges for future development, setback requirements, and dedication and/or fee requirements, site-specific details of future development projects are largely unknown at the present time. For this reason, this evaluation of the environmental impacts that may be associated with implementation of the Specific Plan is necessarily more general than one would expect in an EIR that focuses on a specific development projects. Individual development projects that are proposed will require additional, site-specific environmental review beyond that provided in this document.

3.2 SITE LOCATION AND DESCRIPTION

The Specific Plan area is located in central Larkspur (Exhibit 2-1 in Section 2, Project Description); portions of the Specific Plan area lie within, adjacent to, and northeast of downtown Larkspur (Exhibit 2-2). The Specific Plan encompasses a 22-acre rectangular-shaped area of relatively flat land that is bordered by Magnolia Avenue on the west; East Ward Street, Meadowood Drive, and Larkspur Creek on the south; Larkspur Creek on the east; and Doherty Drive on the north. The entire Doherty Drive right-of-way, from Magnolia Avenue east to the city limit (5.58 acres), is also included in the Specific Plan area. Doherty Drive is bordered by Mt. Tamalpais Racquet Club, Hall Middle School, Piper Park, and residential development on the north, and by Redwood High School, Tamalpais High School District facilities on the south, and the rest of the Specific Plan area.

regulations, programs, public works projects, and financing measures to achieve the distribution and location of land uses, including open space, described in the Specific Plan. The Specific Plan will also provide implementation measures for the housing, transportation, community design, and utility goals of the plan.

3.4 PROJECT OVERVIEW AND COMPONENTS

The Specific Plan proposes a mixed-use development area with retail, recreation, cultural, civic, and residential uses that would contribute to the vitality of the Downtown area, combining current land uses with new development. Subarea 1 consists of five properties fronting on Magnolia Avenue and East Ward Street in the southwest portion of the Specific Plan area, encompassing the historic railroad structures and adjacent commercial buildings, a City park, an access driveway to Larkspur Plaza, a City-owned parking lot, and the American Legion hall. Subarea 2, which fronts on Doherty Drive near Magnolia Avenue, has existing commercial establishments including Albertsons supermarket and a gas station. Subarea 3 consists of the Niven property. The Doherty Drive right-of-way is included within the Specific Plan boundaries but is not developable for any other use and thus is not included within the development subareas Other planning and site improvements would be required and are described below. A number of land uses are permitted in each of the subareas, as described in the Specific Plan and regulated by the City Zoning and Subdivision Ordinance. These land uses are summarized below.

SUBAREA 1

Principal permitted land uses in Subarea 1 include multifamily residential, retail sales, business and personal services, hotel/inn, office, cultural/civic, and public parking. Total development intensity, exclusive of parking, would not be permitted to exceed a floor area ratio (FAR) of 0.6 (for a maximum of 28 residential units); however, the Specific Plan offers additional development capacity (FAR of 0.8) as an incentive to encourage development of a hotel/inn in Subarea 1. Building coverage would not exceed 40% of the site area.

Doherty Park would remain in its current condition and the American Legion hall would be retained. The two one-story commercial buildings on the Nazari property would be permitted to be demolished to accommodate construction of new buildings and facilities. The former railroad station and warming house would remain in their present location, and provisions would be made to protect their historic value. Open space, sized and designed to accommodate community-oriented activities, would be provided adjacent to the two preserved railroad buildings to provide an appropriate setting for these historic structures. A new bikeway and footpath alignment would be added to connect the bikeway segment on the former Northwestern Pacific Railroad right-of-way with the existing bikeway along Magnolia Avenue via Larkspur Plaza. The existing access driveway to Larkspur Plaza from Magnolia Avenue would remain, but the driveway entrance would be narrowed. The City parking lot at East Ward Street and Magnolia Avenue would remain, or would be improved.

- Soil surcharge in Subarea 3 to precompress the underlying Bay Mud, engineered fill for upper three feet of existing fill materials in Subarea 3, and treatment of corrosive soils in Subarea 3 (Harza Engineering Company 1998a) (Appendix C-1)

3.5 PROJECT BACKGROUND

The *Draft Central Larkspur Specific Plan* (2001 Draft Specific Plan) (City of Larkspur 2001) was prepared by Thomas Cooke Associates for the City in June 2001 in order to facilitate the redevelopment of 22 acres adjacent to downtown Larkspur. The *Draft Central Larkspur Specific Plan Draft Environmental Impact Report* (previous Draft EIR) (City of Larkspur 2002) was subsequently prepared by Lamphier-Gregory for the City in conformance with CEQA §21000 et seq., as amended, and the State CEQA Guidelines §15000 et seq., and was based on the project description, goals, and policies described in the 2001 Draft Specific Plan.

In June 2002, the previous Draft EIR was circulated for a 45-day review period. A number of substantive comments were received; based on this input, it was determined that the 2001 Draft Specific Plan and the previous Draft EIR would be revised and updated as appropriate and recirculated pursuant to Guidelines §15088.5(f)(1).

The City has revised the previous Draft EIR to reflect the revised Specific Plan and recirculated this Revised Draft EIR under Guidelines §15087 because significant new information was added to the EIR after public notice was given of the availability of the previous Draft EIR for public review but before the document was certified.

In accordance with the Guidelines, a Notice of Preparation (NOP) of the revised Draft EIR was distributed on April 2, 2003, to public agencies and organizations, as well as to private organizations and individuals with a possible interest in the Specific Plan. The purpose of the NOP is to provide notification that the City plans to prepare an EIR and to solicit input on the scope and contents of the EIR. Two comment letters were received in response to the NOP. The NOP and the comment letters are included in Appendix A of this Revised Draft EIR.

3.6 SCOPE AND CONTENT

This Revised Draft EIR augments and updates the previous analysis and focuses on the environmental impacts identified as potentially significant, based on results from the City's scoping process, including the comment received in response to the NOP, and based on comments received in response to the circulation of the previous Draft EIR. This Revised Draft EIR includes and incorporates text, exhibits, and reference documents from the previous Draft EIR, where appropriate. The environmental issues evaluated in this Revised Draft EIR are the following:

- Land Use and Planning
- Population and Housing
- Geology and Soils
- Hydrology and Water Quality

3.9 ALTERNATIVES TO THE PROPOSED PROJECT

Guidelines §15126.6(a) requires that an EIR include a comparative evaluation of the proposed project with alternatives to the project that are capable of attaining most of the project's basic objectives. CEQA requires an evaluation of a "range of reasonable" alternatives. The "Proposed Project" analyzed in this Revised Draft EIR was based on the theoretical maximum density and intensity of land use that could be developed on the Specific Plan area given the policies in the proposed Specific Plan. As discussed in Chapter 6, Alternatives to the Proposed Project, the following three alternatives to this "Proposed Project" were considered:

- *The No Project Alternative* is required by CEQA. Under this alternative, the Subarea 3 of the Specific Plan area would remain much as it is today. New commercial and residential uses that are consistent with the City's General Plan and the Larkspur Downtown Specific Plan may occur in Subarea 1 and Subarea 2. There would be no significant and unavoidable impacts under this alternative.

- *The Low Density Alternative* is designed to enable development within the Specific Plan area at residential and commercial retail densities considerably lower than anticipated under the Proposed Project, while meeting the City's objectives for a mix of land uses and including a community center, hotel/inn, and a mix of housing types. This alternative would have the same number of significant and unavoidable impacts as the Proposed Project.

- *The Residential Focus Alternative* is designed to maximize residential development within the Specific Plan area by providing for residential densities higher than anticipated under the Proposed Project while retaining a mix of land uses. Similar to the Proposed Project, this alternative does not include a community center. This alternative would have the same number of significant and unavoidable impacts as the Proposed Project.

3.10 EVALUATION OF ALTERNATIVES AND IDENTIFICATION OF THE ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Guidelines §§15126.6(e)(1), 15126.6(e)(2) state that the EIR shall identify an "environmentally superior" alternative based on the comparative analysis among project alternatives (but not including the No Project Alternative).

Impacts of each of the alternatives were compared to those of the Proposed Project to assess for lesser, similar or greater impacts (see Table 6-5 in Section 6, Alternatives). Based on this comparisons, the No Project Alternative would be regarded as the environmentally superior alternative; however, the No Project Alternative meets none of the objectives of the Specific Plan, would not help the City to meet its fair share of the regional housing need, and would not add to the supply of housing that might be available for those in the local workforce.

When the No Project Alternative has been identified as the environmentally superior alternative, CEQA requires that an additional alternative be identified as the environmentally

Form A

Notice of Completion & Environmental Document Transmittal

SCH # 2001112092

Mail to: State Clearinghouse, PO Box 3044, Sacramento, CA 95812-3044 916/445-0613

Project Title: Central Larkspur Specific Plan

Lead Agency: City of Larkspur Planning Department

Contact Person: Nancy Kaufman, Planning Director

Street Address: 400 Magnolia Avenue

Phone: (415) 927-5025

City: Larkspur Zip: 94939

County: Marin

Project Location:

County: Marin

City/Nearest Community: Larkspur

Cross Streets: Magnolia Avenue/Doherty Drive

Zip Code: 94939

Total Acres: 27.58

Assessor's Parcel No.

Section: Twp. Range: Base:

Within 2 Miles: State Hwy #: U.S. 101

Waterways: San Francisco Bay

Airports:

Railways:

Schools: Hall Middle School

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Document Type:

CEQA: ☐ NOP ☐ Early Cons ☐ Neg Dec ☒ Draft EIR ☐ Supplement/Subsequent EIR (Prior SCH No.) ☐ Other

NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI

Other: ☐ Joint Document ☐ Final Document ☐ Other

Local Action Type:

☐ General Plan Update ☒ General Plan Amendment ☐ General Plan Element ☐ Community Plan

☒ Specific Plan ☐ Master Plan ☒ Planned Unit Development ☐ Site Plan

☒ Rezone ☐ Prezone ☐ Use Permit ☐ Land Division (Subdivision, etc.)

☐ Annexation ☐ Redevelopment ☐ Coastal Permit ☐ Other

Development Type:

☒ Residential: Units 132 Acres 22

☐ Office: Sq.ft. Acres Employees

☒ Commercial: Sq.ft. 143.7K Acres 5.7 Employees

☐ Industrial: Sq.ft. Acres Employees

☐ Educational

☐ Recreational

☐ Water Facilities: Type MGD

☐ Transportation: Type

☐ Mining: Mineral

☐ Power: Type Watts

☐ Waste Treatment: Type

☐ Hazardous Waste: Type

☐ Other:

Funding (approx.): Federal $ State $ Total $

Project Issues Discussed in Document:

☒ Aesthetic/Visual ☐ Agricultural Land ☒ Air Quality ☒ Archeological/Historical ☐ Coastal Zone ☒ Drainage/Absorption ☐ Economic/Jobs ☐ Fiscal

☒ Flood Plain/Flooding ☐ Forest Land/Fire Hazard ☒ Geologic/Seismic ☐ Minerals ☒ Noise ☒ Population/Housing Balance ☒ Public Services/Facilities ☒ Recreation/Parks

☒ Schools/Universities ☐ Septic Systems ☒ Sewer Capacity ☒ Soil Erosion/Compaction/Grading ☒ Solid Waste ☒ Toxic/Hazardous ☒ Traffic/Circulation ☒ Vegetation

☒ Water Quality ☒ Water Supply/Groundwater ☒ Wetland/Riparian ☒ Wildlife ☒ Growth Inducing ☒ Landuse ☒ Cumulative Effects ☐ Other

Present Land Use/Zoning/General Plan Designation:

Land use:Retail,commercial nursery/ Zng:Dwntwn Storefront, Dwntwn Transitional/ GP: Commercial, Low Density Residential

Project Description:

Specific Plan for redevelopment of an existing commercial nursery to residential, and redevelopment of existing commercial. General Plan amendment to designate park site and Class I bikeway. Rezone nursery site to Planned District.

State Clearinghouse Contact: (916) 445-0613

State Review Began: 11-14-2003

2-12-2004

SCH COMPLIANCE ~~12-12-2003~~

extended

Please note State Clearinghouse Number (SCH#) on all Comments

SCH#: 2001112092

Please forward late comments directly to the Lead Agency

AQMD/APCD 2

(Resources: 11/15)

Project Sent to the following State Agencies

X Resources
Boating & Waterways
Coastal Comm
Colorado Rvr Bd
Conservation
X Fish & Game # 3
Delta Protection Comm
Forestry & Fire Prot
X Historic Preservation
X Parks & Rec
Reclamation Board
X Bay Cons & Dev Comm
X DWR
OES (Emergency Svcs)

Bus Transp Hous
Aeronautics
X CHP
X Caltrans # 4
Trans Planning
X Housing & Com Dev
Food & Agriculture
Health Services

State/Consumer Svcs
General Services

Cal EPA
ARB – Airport Projects
ARB – Transportation Projects
ARB – Major Industrial Projects
X Integrated Waste Mgmt Bd
SWRCB: Clean Wtr Prog
SWRCB: Wtr Quality
SWRCB: Wtr Rights
X Reg. WQCB # 2
X Toxic Sub Ctrl-CTC

Yth/Adlt Corrections
Corrections

Independent Comm
Energy Commission
X NAHC
Public Utilities Comm
Santa Monica Mtns
X State Lands Comm
Tahoe Rgl Plan Agency

Other:

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse and Planning Unit

Arnold Schwarzenegger
Governor

Jan Boel
Acting Deputy Director

February 13, 2004

RECEIVED
FEB 17 2004

Nancy Kaufman
City of Larkspur
400 Magnolia Avenue
Larkspur, CA 94939

Subject: Central Larkspur Specific Plan
SCH#: 2001112092

Dear Nancy Kaufman:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. The review period closed on February 12, 2004, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Terry Roberts

Terry Roberts
Director, State Clearinghouse

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
(916)445-0613 FAX(916)323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH# 2001112092
Project Title Central Larkspur Specific Plan
Lead Agency Larkspur, City of

Type EIR Draft EIR
Description Specific Plan for redevelopment of an existing commercial nursery to residential, and redevelopment of existing commercial. General Plan amendment to designate park site and Class I bikeway. Rezone nuresery site to Planned District

Lead Agency Contact

Name Nancy Kaufman
Agency City of Larkspur
Phone 415-927-5025 **Fax**
email
Address 400 Magnolia Avenue **State** CA **Zip** 94939
City Larkspur

Project Location

County Marin
City Larkspur
Region
Cross Streets Magnolia Avenue and Doherty Drive, Ward Street
Parcel No.
Township **Range** **Section** **Base**

Proximity to:

Highways U.S. 101
Airports
Railways
Waterways Larkspur Creek, Corte Madera Creek, San Francisco Bay
Schools Hall Middle, Redwood High, Cummins Elementary
Land Use Landuse: retail, commercial nursery.
Zng: downtown storefront, downtown transitional
GP: Commercial, low density residential

Project Issues Housing; Population/Housing Balance; Water Quality; Geologic/Seismic; Biological Resources; Air Quality; Traffic/Circulation; Noise; Public Services; Aesthetic/Visual; Archaeologic-Historic; Toxic/Hazardous; Drainage/Absorption; Flood Plain/Flooding; Recreation/Parks; Schools/Universities; Soil Erosion/Compaction/Grading; Solid Waste; Vegetation; Water Supply; Wetland/Riparian; Wildlife; Growth Inducing; Landuse; Cumulative Effects

Reviewing Agencies Resources Agency; Office of Historic Preservation; Department of Parks and Recreation; San Francisco Bay Conservation and Development Commission; Department of Water Resources; California Highway Patrol; Caltrans, District 4; Department of Housing and Community Development; Integrated Waste Management Board; Regional Water Quality Control Board, Region 2; Department of Fish and Game, Region 3; Department of Toxic Substances Control; Native American Heritage Commission; State Lands Commission

Date Received 11/14/2003 **Start of Review** 11/14/2003 **End of Review** 02/12/2004

Note: Blanks in data fields result from insufficient information provided by lead agency.

APPENDIX F-4

TRAFFIC DATA

MARKS TRAFFIC DATA

DOHERTY DR. JUST W/O THE BRIDGE
(near the Hall Middle School)

CITY OF LARKSPUR

Site Code: 2
doherty

Start Time	01-May-03 Thu WB A.M.	WB P.M.	EB A.M.	EB P.M.	02-May-03 Fri WB A.M.	WB P.M.	EB A.M.	EB P.M.	03-May-03 Sat WB A.M.	WB P.M.	EB A.M.	EB P.M.	Total A.M.	Total P.M.
12:00	7	94	0	80	3	105	2	90	18	126	10	92	40	587
12:15	3	121	0	80	3	90	4	73	15	105	7	89	32	558
12:30	2	114	3	90	5	91	0	76	10	97	3	85	23	553
12:45	4	82	3	85	2	89	4	87	7	93	7	90	27	526
01:00	2	83	1	84	2	116	0	84	6	85	1	82	12	534
01:15	0	74	1	85	4	140	1	77	4	94	4	69	14	539
01:30	1	91	3	84	3	116	2	74	8	78	9	89	26	532
01:45	1	108	0	80	1	129	0	84	5	104	3	84	10	589
02:00	2	111	0	103	1	117	1	115	0	82	1	74	5	602
02:15	0	96	0	74	4	178	4	104	3	90	1	77	12	619
02:30	0	116	1	115	2	177	1	93	2	82	2	61	8	644
02:45	0	111	1	96	3	134	0	84	1	86	1	69	6	580
03:00	0	195	0	117	1	177	1	84	0	74	1	68	3	715
03:15	1	183	1	134	1	155	2	119	0	92	0	63	5	746
03:30	0	114	3	108	2	117	1	86	0	90	0	69	6	584
03:45	1	96	0	99	0	138	2	89	3	91	0	66	6	579
04:00	2	154	1	115	4	137	5	69	0	108	0	62	12	645
04:15	3	147	2	114	1	128	4	74	1	95	1	61	12	619
04:30	2	157	1	116	3	125	3	80	0	102	4	58	13	638
04:45	4	128	5	90	4	128	4	75	3	107	4	73	24	601
05:00	5	145	5	110	1	132	3	72	2	92	2	79	18	630
05:15	2	166	6	100	3	133	3	62	2	92	3	61	19	614
05:30	3	158	6	96	12	144	11	87	3	75	5	46	40	606
05:45	17	199	18	80	14	121	14	65	5	86	2	57	70	608
06:00	14	199	13	86	18	116	12	58	3	79	5	53	65	591
06:15	14	206	17	92	15	115	20	62	3	73	4	71	73	619
06:30	24	154	31	78	24	130	36	67	5	66	7	53	127	548
06:45	32	127	54	83	28	94	29	58	9	64	13	44	165	470
07:00	29	121	52	69	40	75	47	40	22	58	13	46	203	409
07:15	65	99	80	64	36	86	72	48	12	53	19	51	284	401
07:30	92	113	165	50	73	85	147	49	33	55	29	41	539	393
07:45	133	82	186	41	150	69	180	36	40	61	38	27	727	316
08:00	80	66	114	28	120	56	102	37	35	53	48	36	499	276
08:15	95	59	148	40	89	44	147	34	25	46	35	28	539	251
08:30	74	53	125	43	70	41	126	22	48	34	45	24	488	217
08:45	70	50	116	26	60	40	104	24	62	39	33	26	445	205
09:00	77	77	92	23	82	70	75	25	56	63	55	25	437	263
09:15	76	51	77	28	74	51	85	24	52	65	56	14	420	233
09:30	76	58	84	15	64	38	82	16	60	57	76	21	442	205
09:45	69	41	97	23	81	34	72	16	72	37	58	20	449	171
10:00	76	21	72	17	67	34	115	27	68	32	66	21	464	152
10:15	76	20	90	16	91	29	112	17	71	32	56	21	496	135
10:30	73	19	86	15	74	24	90	19	85	30	66	11	474	118
10:45	86	19	114	4	65	24	76	15	75	28	75	11	491	101
11:00	103	11	116	14	74	23	91	10	95	36	77	15	556	109
11:15	79	7	84	7	98	17	72	4	92	23	74	12	499	70
11:30	72	9	84	6	130	15	78	2	81	15	89	10	534	57
11:45	86	9	76	5	99	26	97	7	85	21	87	7	530	75
Total	1733	4714	2234	3208	1801	4453	2139	2720	1287	3346	1195	2412	10389	20853
Day Total	6447		5442		6254		4859		4633		3607		31242	
Percent	0.0% 26.9%	73.1%	41.1%	58.9%	28.8%	71.2%	44.0%	56.0%	27.8%	72.2%	33.1%	66.9%		
Peak	07:30	05:30	07:30	02:30	07:30	02:15	07:30	01:45	11:00	12:00	11:00	12:00		
Volume	400	762	613	462	432	666	576	396	353	421	327	356		
P.H.F.	0.752	0.925	0.824	0.862	0.720	0.935	0.800	0.832	0.929	0.835	0.919	0.967		

MARKS TRAFFIC DATA

CITY OF LARKSPUR

DOHERTY DR: JUST W/O THE BRIDGE
(near the Hall Middle School)

Site Code: 2
doherty

Start Time	04-May-03 Sun WB A.M.	WB P.M.	EB A.M.	EB P.M.	05-May-03 Mon WB A.M.	WB P.M.	EB A.M.	EB P.M.	06-May-03 Tue WB A.M.	WB P.M.	EB A.M.	EB P.M.	Total A.M.	Total P.M.
12:00	19	81	9	67	4	90	6	73	0	98	2	108	40	537
12:15	14	75	8	68	5	79	6	92	1	89	5	84	39	487
12:30	4	89	12	96	1	101	3	77	2	100	3	58	25	521
12:45	12	77	7	71	4	93	0	101	2	94	1	86	26	522
01:00	2	78	7	66	3	95	5	84	4	92	2	89	23	504
01:15	7	73	4	65	0	91	1	77	0	84	2	88	14	478
01:30	3	70	1	78	2	78	1	73	3	72	2	79	12	450
01:45	4	83	2	62	2	104	1	99	4	102	0	81	13	531
02:00	2	82	1	63	2	94	0	74	2	102	3	91	10	506
02:15	6	93	0	68	1	79	0	93	3	161	2	88	12	582
02:30	2	86	3	46	0	71	1	89	3	104	0	101	9	499
02:45	1	88	1	68	0	111	1	93	0	110	0	98	3	568
03:00	2	80	0	73	0	131	0	103	2	140	1	122	5	649
03:15	1	83	2	70	0	98	1	105	1	235	4	118	9	709
03:30	2	90	1	68	1	121	4	100	1	155	2	149	11	683
03:45	0	81	0	74	2	112	1	102	1	140	3	91	7	600
04:00	0	82	1	64	3	105	3	83	2	144	2	96	11	574
04:15	1	85	2	55	1	129	1	98	2	145	3	106	10	618
04:30	1	80	2	71	6	135	1	93	2	153	4	106	16	638
04:45	2	77	1	59	1	148	7	78	2	146	4	104	17	612
05:00	2	89	3	68	1	129	5	140	6	143	5	116	22	685
05:15	2	83	4	55	1	146	5	114	2	153	8	101	22	652
05:30	3	77	7	37	6	173	18	98	6	173	11	77	51	635
05:45	3	82	3	46	19	169	13	77	16	174	10	86	64	634
06:00	6	81	3	52	13	139	12	72	16	158	12	84	62	586
06:15	5	81	2	29	14	135	24	73	14	148	20	58	79	524
06:30	8	74	13	30	15	123	30	72	30	110	36	69	132	478
06:45	6	71	4	41	47	115	31	57	48	108	44	66	180	458
07:00	7	58	10	32	35	102	37	55	39	113	63	54	191	414
07:15	7	52	11	33	39	101	80	44	50	116	112	49	299	395
07:30	14	48	10	40	37	95	52	39	92	86	179	32	384	340
07:45	23	51	30	25	47	74	62	34	124	72	152	27	438	283
08:00	20	46	31	29	80	64	121	36	91	65	113	31	456	271
08:15	23	35	32	24	72	45	117	34	89	57	151	31	484	226
08:30	28	38	36	23	79	43	116	25	67	47	124	27	450	203
08:45	49	39	48	22	77	53	86	20	72	66	104	26	436	226
09:00	49	33	43	16	71	55	99	16	64	68	71	37	397	225
09:15	42	23	45	16	76	41	63	20	79	39	76	24	381	163
09:30	55	18	53	15	52	24	84	22	65	42	71	18	380	139
09:45	63	26	53	18	81	21	86	13	80	28	85	19	448	125
10:00	65	19	54	20	78	19	61	19	78	30	72	21	408	128
10:15	45	12	67	10	87	17	82	13	82	26	71	7	434	85
10:30	73	11	75	11	78	11	66	3	95	14	88	15	475	65
10:45	96	13	97	10	87	11	61	9	85	15	76	8	502	66
11:00	61	11	67	9	83	13	83	5	76	8	89	5	459	51
11:15	61	11	72	7	82	7	67	2	101	5	82	7	465	39
11:30	87	7	75	6	100	9	77	7	87	16	79	6	505	51
11:45	89	7	80	3	92	5	73	0	128	13	78	3	540	31
Total	1077	2831	1092	2099	1587	4004	1754	2906	1819	4559	2127	3047	9456	19446
Day Total	3908		3191		5591		4660		6378		5174		28902	
Percent	0.0% 27.6%	72.4%	34.2%	65.8%	28.4%	71.6%	37.6%	62.4%	28.5%	71.5%	41.1%	58.9%		
Peak	10:45	02:00	10:30	12:00	11:00	05:15	08:00	04:45	07:30	03:15	07:30	02:45		
Volume	305	351	311	322	357	627	440	430	396	674	595	487		
P.H.F.	0.794	0.944	0.802	0.839	0.893	0.906	0.909	0.768	0.773	0.717	0.831	0.817		

MAY 18 '04 10:39AM WSA SAN FRANCISCO 415 436 9337 P.3/13

MARKS TRAFFIC DATA

CITY OF LARKSPUR

DOHERTY DR. JUST W/O THE BRIDGE
(near the Hall Middle School)

Site Code: 2
doherty

Start Time	07-May-03 Wed WB A.M.	WB P.M.	EB A.M.	EB P.M.	08-May-03 Thu WB A.M.	WB P.M.	EB A.M.	EB P.M.	09-May-03 Fri WB A.M.	WB P.M.	EB A.M.	EB P.M.	Total A.M.	Total P.M.
12:00	5	110	3	81	*	*	*	*	*	*	*	*	8	191
12:15	3	110	2	77	*	*	*	*	*	*	*	*	5	187
12:30	2	100	3	111	*	*	*	*	*	*	*	*	5	211
12:45	1	85	3	103	*	*	*	*	*	*	*	*	4	188
01:00	0	100	4	98	*	*	*	*	*	*	*	*	4	198
01:15	4	105	2	97	*	*	*	*	*	*	*	*	6	202
01:30	2	128	1	91	*	*	*	*	*	*	*	*	3	219
01:45	0	94	0	76	*	*	*	*	*	*	*	*	0	170
02:00	3	103	0	90	*	*	*	*	*	*	*	*	3	193
02:15	0	93	2	93	*	*	*	*	*	*	*	*	2	186
02:30	2	118	1	89	*	*	*	*	*	*	*	*	3	207
02:45	3	117	0	111	*	*	*	*	*	*	*	*	3	228
03:00	0	145	2	123	*	*	*	*	*	*	*	*	2	268
03:15	0	215	1	120	*	*	*	*	*	*	*	*	1	335
03:30	1	158	1	119	*	*	*	*	*	*	*	*	2	277
03:45	5	143	0	97	*	*	*	*	*	*	*	*	5	240
04:00	6	147	5	89	*	*	*	*	*	*	*	*	11	236
04:15	1	127	3	94	*	*	*	*	*	*	*	*	4	221
04:30	1	144	2	124	*	*	*	*	*	*	*	*	3	268
04:45	2	139	7	102	*	*	*	*	*	*	*	*	9	241
05:00	1	190	1	117	*	*	*	*	*	*	*	*	2	307
05:15	2	178	10	121	*	*	*	*	*	*	*	*	12	299
05:30	5	186	19	121	*	*	*	*	*	*	*	*	24	307
05:45	17	178	13	96	*	*	*	*	*	*	*	*	30	274
06:00	13	169	11	100	*	*	*	*	*	*	*	*	24	269
06:15	25	148	17	68	*	*	*	*	*	*	*	*	42	216
06:30	19	138	41	90	*	*	*	*	*	*	*	*	60	228
06:45	37	112	41	62	*	*	*	*	*	*	*	*	78	174
07:00	41	117	58	62	*	*	*	*	*	*	*	*	99	179
07:15	46	137	94	54	*	*	*	*	*	*	*	*	140	191
07:30	81	98	209	48	*	*	*	*	*	*	*	*	290	146
07:45	141	72	152	54	*	*	*	*	*	*	*	*	293	126
08:00	78	73	122	44	*	*	*	*	*	*	*	*	200	117
08:15	79	58	144	34	*	*	*	*	*	*	*	*	223	92
08:30	81	62	103	26	*	*	*	*	*	*	*	*	184	88
08:45	96	60	143	23	*	*	*	*	*	*	*	*	239	83
09:00	70	76	99	41	*	*	*	*	*	*	*	*	169	119
09:15	73	46	91	23	*	*	*	*	*	*	*	*	164	69
09:30	83	30	93	23	*	*	*	*	*	*	*	*	176	53
09:45	90	28	65	11	*	*	*	*	*	*	*	*	155	39
10:00	63	33	89	11	*	*	*	*	*	*	*	*	152	44
10:15	81	19	82	14	*	*	*	*	*	*	*	*	163	33
10:30	90	13	72	9	*	*	*	*	*	*	*	*	162	22
10:45	88	17	82	6	*	*	*	*	*	*	*	*	170	23
11:00	109	16	85	7	*	*	*	*	*	*	*	*	194	23
11:15	96	14	101	4	*	*	*	*	*	*	*	*	197	18
11:30	86	9	111	5	*	*	*	*	*	*	*	*	197	14
11:45	89	9	77	10	*	*	*	*	*	*	*	*	166	19
Total	1821	4769	2267	3269	0	0	0	0	0	0	0	0	4088	8038
Day Total	6590		5536		0		0		0		0		12126	
Percent	0.0% 27.6%	72.4%	41.0%	59.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
Peak	10:30	05:00	07:30	02:45										
Volume	383	732	627	473										
P.H.F.	0.679	0.851	0.750	0.954										
Combined Total	16945		14169		11645		9519		11011		8781		72270	

MARKS TRAFFIC DATA

MAGNOLIA AV. btwn WARD ST. & KING ST.

CITY OF LARKSPUR

Site Code: 1
magnolia

Start Time	01-May-03 Thu SB A.M.	SB P.M.	NB A.M.	NB P.M.	02-May-03 Fri SB A.M.	SB P.M.	NB A.M.	NB P.M.	03-May-03 Sat SB A.M.	SB P.M.	NB A.M.	NB P.M.	Total A.M.	Total P.M.
12:00	10	105	8	101	6	106	5	115	15	154	16	115	60	696
12:15	3	115	6	132	2	119	9	95	13	138	7	97	40	696
12:30	2	119	3	125	8	116	6	115	8	127	6	107	33	709
12:45	5	127	3	120	7	131	3	114	9	125	12	92	39	709
01:00	2	116	4	102	2	114	3	95	2	121	6	92	19	640
01:15	0	128	1	120	5	119	5	112	8	120	10	111	29	710
01:30	3	107	0	117	2	108	2	110	16	125	13	101	36	668
01:45	2	118	1	113	1	116	0	133	6	110	7	113	17	703
02:00	0	143	2	116	1	125	2	160	2	86	2	95	9	725
02:15	2	116	1	108	2	100	3	127	2	96	1	92	11	639
02:30	2	115	1	129	1	107	1	167	2	93	2	97	9	708
02:45	1	139	6	139	0	121	2	161	0	112	0	102	9	774
03:00	0	131	1	131	1	129	1	158	2	107	2	104	7	760
03:15	1	134	1	126	1	115	1	120	2	114	1	93	7	702
03:30	2	118	1	140	0	124	1	169	1	104	0	107	5	762
03:45	2	109	1	121	3	109	2	128	3	122	2	103	13	692
04:00	2	145	1	149	2	110	1	159	0	108	2	103	8	774
04:15	3	129	1	147	1	96	1	162	1	120	0	87	7	741
04:30	3	110	0	139	1	104	1	161	2	101	4	92	11	707
04:45	4	122	2	158	1	101	4	157	3	105	2	88	16	731
05:00	3	124	2	140	1	114	1	162	4	104	1	93	12	737
05:15	8	115	5	157	3	107	1	168	1	95	3	75	21	717
05:30	9	121	6	158	10	106	4	170	3	87	5	87	37	729
05:45	9	122	15	144	6	100	11	137	5	89	2	96	48	668
06:00	13	128	20	157	9	99	8	136	5	104	6	93	61	717
06:15	17	132	11	115	18	93	15	114	7	78	4	88	72	620
06:30	27	102	27	103	27	100	26	101	17	82	15	88	139	576
06:45	42	112	24	98	44	84	31	76	8	79	17	83	166	532
07:00	43	82	38	84	48	59	36	88	18	76	14	70	197	459
07:15	81	78	56	85	55	79	57	69	33	69	27	64	309	444
07:30	97	73	92	77	93	49	78	66	29	68	53	69	442	402
07:45	129	76	114	82	112	55	62	60	36	74	44	55	499	402
08:00	156	63	79	85	164	45	83	66	40	70	39	55	561	384
08:15	128	70	137	66	148	54	111	51	60	41	55	46	639	328
08:30	131	64	96	50	112	42	102	41	62	38	47	45	550	280
08:45	123	36	116	55	110	51	122	25	79	35	67	37	617	239
09:00	98	48	91	43	83	36	103	37	74	42	69	35	518	241
09:15	102	49	115	47	100	28	96	42	88	38	68	34	569	238
09:30	91	39	113	33	99	36	77	41	105	50	99	36	584	235
09:45	82	28	112	42	109	38	56	44	104	46	102	40	565	238
10:00	108	34	96	28	114	33	90	41	97	62	84	36	589	234
10:15	95	31	95	28	93	35	103	33	94	20	99	39	579	186
10:30	96	16	101	16	113	32	96	40	96	26	93	25	595	155
10:45	93	14	107	12	108	15	102	20	110	22	109	25	629	108
11:00	97	16	99	19	99	24	104	20	106	37	92	32	597	148
11:15	135	16	88	12	99	23	82	20	84	22	110	21	598	114
11:30	112	10	111	8	111	23	95	14	113	14	116	24	658	93
11:45	124	4	122	10	108	24	122	28	131	19	98	18	705	103
Total	2298	4249	2132	4487	2243	3854	1927	4628	1708	3875	1633	3500	11941	24593
Day Total	6547		6619		6097		6555		5583		5133		36534	
Percent	0.0% 35.1%	64.9%	32.2%	67.8%	36.8%	63.2%	29.4%	70.6%	30.6%	69.4%	31.8%	68.2%		
Peak	07:45	02:45	08:15	05:15	07:45	02:45	08:15	04:45	11:00	12:00	10:45	01:15		
Volume	544	522	440	616	536	489	438	657	434	544	427	420		
P.H.F.	0.872	0.900	0.803	0.975	0.817	0.933	0.898	0.966	0.828	0.883	0.920	0.913		

MARKS TRAFFIC DATA

MAGNOLIA AV. btwn WARD ST. & KING ST.

CITY OF LARKSPUR

Site Code: 1
magnolia

Start Time	04-May-03 Sun SB A.M.	SB P.M.	NB A.M.	NB P.M.	05-May-03 Mon SB A.M.	SB P.M.	NB A.M.	NB P.M.	06-May-03 Tue SB A.M.	SB P.M.	NB A.M.	NB P.M.	Total A.M.	Total P.M.
12:00	32	90	27	94	7	115	5	98	2	121	7	128	80	646
12:15	9	77	13	97	4	103	5	100	3	120	3	111	37	608
12:30	12	88	11	94	4	115	2	121	7	129	8	104	44	651
12:45	19	78	7	75	3	117	3	87	5	131	7	112	44	600
01:00	5	89	14	81	3	96	3	124	6	105	1	121	32	616
01:15	7	87	8	76	2	98	3	113	1	94	3	106	24	574
01:30	2	77	6	60	2	105	5	125	3	102	4	90	22	559
01:45	6	74	5	74	1	104	1	110	3	118	5	129	21	609
02:00	3	79	3	86	2	96	4	99	0	107	3	99	15	566
02:15	3	100	2	89	0	118	2	107	1	103	2	110	10	627
02:30	2	84	2	88	1	111	1	109	1	95	1	127	8	614
02:45	3	97	2	87	0	119	1	117	1	136	1	124	8	680
03:00	1	86	1	101	2	130	0	143	2	128	2	130	8	718
03:15	3	96	1	99	1	148	1	133	2	131	2	106	10	713
03:30	1	101	2	94	0	133	1	131	2	129	1	125	7	713
03:45	1	113	0	84	2	136	1	133	3	131	2	151	9	748
04:00	0	109	3	84	1	101	1	111	4	122	2	159	11	686
04:15	2	89	4	100	4	110	2	116	1	118	1	126	14	659
04:30	0	104	2	95	2	115	2	139	2	113	3	134	11	700
04:45	3	83	0	102	3	127	4	120	0	128	1	161	11	721
05:00	1	75	2	102	5	123	4	136	8	126	2	154	22	716
05:15	3	93	1	90	5	125	2	144	4	100	5	176	20	728
05:30	4	83	5	75	8	100	12	129	5	110	4	176	38	673
05:45	1	96	3	65	7	111	10	117	13	102	11	159	45	650
06:00	4	80	5	71	15	111	11	119	18	91	10	140	63	612
06:15	6	65	8	69	18	88	24	106	13	91	22	156	91	575
06:30	7	77	5	85	22	102	48	109	26	85	17	109	125	567
06:45	15	78	15	69	49	75	63	89	53	87	24	79	219	477
07:00	12	84	16	64	57	81	49	92	60	86	39	87	233	494
07:15	14	51	16	55	54	70	46	70	70	82	64	67	264	395
07:30	35	54	19	52	93	78	74	65	88	66	104	62	413	377
07:45	47	48	27	47	133	68	84	51	144	62	96	68	531	344
08:00	33	46	31	47	133	52	82	47	135	56	98	56	512	304
08:15	36	28	45	49	126	53	129	39	126	64	130	41	592	274
08:30	47	49	65	39	109	38	121	52	117	45	103	49	562	272
08:45	55	34	69	22	98	49	100	43	119	52	107	45	548	245
09:00	54	39	42	33	87	55	94	37	87	39	91	44	455	247
09:15	66	36	54	30	69	35	107	41	101	25	103	27	500	194
09:30	73	24	50	26	91	37	95	28	121	46	91	39	521	200
09:45	108	26	76	19	86	33	95	24	86	34	86	35	537	171
10:00	85	15	71	14	92	31	94	28	97	20	93	26	532	134
10:15	92	11	83	18	96	22	84	17	106	23	99	18	560	109
10:30	84	13	95	11	98	11	87	12	119	18	84	15	567	80
10:45	105	18	100	18	115	11	106	10	102	10	117	10	645	77
11:00	94	8	91	11	97	14	95	7	105	8	94	6	576	54
11:15	120	8	95	14	98	7	96	12	128	13	115	3	652	57
11:30	81	6	98	12	107	11	97	15	109	7	101	8	593	59
11:45	94	8	87	8	103	5	97	1	134	9	99	6	614	37
Total	1490	3054	1387	2975	2115	3893	2053	3976	2343	3918	2068	4314	11456	22130
Day Total	4544		4362		6008		6029		6261		6382		33586	
Percent	0.0% 32.8%	67.2%	31.8%	68.2%	35.2%	64.8%	34.1%	65.9%	37.4%	62.6%	32.4%	67.6%		
Peak	10:30	03:15	10:45	04:15	07:45	03:00	08:15	03:00	07:45	02:45	08:00	04:45		
Volume	403	419	384	399	501	547	444	540	522	524	438	667		
P.H.F.	0.840	0.927	0.960	0.978	0.942	0.924	0.860	0.938	0.906	0.963	0.842	0.947		

MARKS TRAFFIC DATA

MAGNOLIA AV. btwn WARD ST. & KING ST.

CITY OF LARKSPUR

Site Code: 1
magnolia

Start Time	07-May-03 Wed SB A.M.	SB P.M.	NB A.M.	NB P.M.	08-May-03 Thu SB A.M.	SB P.M.	NB A.M.	NB P.M.	09-May-03 Fri SB A.M.	SB P.M.	NB A.M.	NB P.M.	Total A.M.	Total P.M.
12:00	3	49	2	193	*	*	*	*	*	*	*	*	5	242
12:15	5	43	3	187	*	*	*	*	*	*	*	*	8	230
12:30	5	125	6	113	*	*	*	*	*	*	*	*	11	238
12:45	2	113	2	111	*	*	*	*	*	*	*	*	4	224
01:00	1	141	6	93	*	*	*	*	*	*	*	*	7	234
01:15	5	139	4	98	*	*	*	*	*	*	*	*	9	237
01:30	2	131	3	115	*	*	*	*	*	*	*	*	5	246
01:45	3	110	0	120	*	*	*	*	*	*	*	*	3	230
02:00	3	128	6	126	*	*	*	*	*	*	*	*	9	254
02:15	1	114	0	112	*	*	*	*	*	*	*	*	1	226
02:30	2	120	1	111	*	*	*	*	*	*	*	*	3	231
02:45	0	114	1	112	*	*	*	*	*	*	*	*	1	226
03:00	0	107	3	152	*	*	*	*	*	*	*	*	3	259
03:15	0	135	1	132	*	*	*	*	*	*	*	*	1	267
03:30	2	102	1	119	*	*	*	*	*	*	*	*	3	221
03:45	2	111	0	128	*	*	*	*	*	*	*	*	2	239
04:00	3	124	2	129	*	*	*	*	*	*	*	*	5	253
04:15	1	100	1	132	*	*	*	*	*	*	*	*	2	232
04:30	4	106	2	120	*	*	*	*	*	*	*	*	6	226
04:45	1	133	5	121	*	*	*	*	*	*	*	*	6	254
05:00	4	121	3	129	*	*	*	*	*	*	*	*	7	250
05:15	6	123	5	130	*	*	*	*	*	*	*	*	11	253
05:30	11	133	10	153	*	*	*	*	*	*	*	*	21	286
05:45	12	136	10	138	*	*	*	*	*	*	*	*	22	274
06:00	16	116	10	123	*	*	*	*	*	*	*	*	26	239
06:15	23	98	15	110	*	*	*	*	*	*	*	*	38	208
06:30	21	108	32	109	*	*	*	*	*	*	*	*	53	217
06:45	52	90	28	100	*	*	*	*	*	*	*	*	80	190
07:00	45	86	41	69	*	*	*	*	*	*	*	*	86	155
07:15	75	89	67	68	*	*	*	*	*	*	*	*	142	157
07:30	110	72	89	63	*	*	*	*	*	*	*	*	199	135
07:45	140	56	103	68	*	*	*	*	*	*	*	*	243	124
08:00	144	65	77	59	*	*	*	*	*	*	*	*	221	124
08:15	125	56	126	40	*	*	*	*	*	*	*	*	251	96
08:30	129	51	127	54	*	*	*	*	*	*	*	*	256	105
08:45	130	57	125	52	*	*	*	*	*	*	*	*	255	109
09:00	94	45	104	58	*	*	*	*	*	*	*	*	198	103
09:15	87	62	119	30	*	*	*	*	*	*	*	*	206	92
09:30	104	34	107	39	*	*	*	*	*	*	*	*	211	73
09:45	119	39	104	22	*	*	*	*	*	*	*	*	223	61
10:00	104	32	98	20	*	*	*	*	*	*	*	*	202	52
10:15	104	28	80	55	*	*	*	*	*	*	*	*	184	83
10:30	93	20	102	25	*	*	*	*	*	*	*	*	195	45
10:45	97	15	94	23	*	*	*	*	*	*	*	*	191	38
11:00	100	16	92	31	*	*	*	*	*	*	*	*	192	47
11:15	109	11	90	15	*	*	*	*	*	*	*	*	199	26
11:30	115	9	120	14	*	*	*	*	*	*	*	*	235	23
11:45	124	6	114	14	*	*	*	*	*	*	*	*	238	20
Total	2338	4019	2141	4335	0	0	0	0	0	0	0	0	4479	8354
Day Total	6357		6476		0		0		0		0		12833	
Percent	0.0% 36.8%	63.2%	33.1%	66.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
Peak Volume	07:45 538	00:45 524	08:15 482	12:00 604										
P.H.F.	0.934	0.929	0.949	0.782										
Combined Total	17448		17457		12105		12584		11844		11515		82953	

APPENDIX F-5

TWIN CITIES POLICE DEPARTMENT YEARLY TRAFFIC REPORT 2003

City of Larkspur

Prepared by
Sergeant McDuffee

Twin Cities Police Department

Inside This Report:

Chief Green's Comments	2
2004 Projected Plans	2
Past Years Comparison	3
2003 Yearly Totals	3
Enforcement	3
Larkspur/Corte Madera Comparison	4
Primary Collision Factors	5
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Larkspur firemen work to remove a trapped motorist after a head-on collision.

During 2003, there were a total of 189 traffic accidents in the City of Larkspur. Of these accidents, 134 occurred on city streets (55 occurred on private property). There were 101 traffic accidents that were handled by log entries where both parties exchanged names and information and no police report was taken. We investigated 88 traffic collision reports in 2003, which compared to 96 during 2002, is an 8 % decrease. (Accidents, both public and private property, where officers respond and take a report.)

Injury accidents increased by four, going from 41 during 2002 to 45 in 2003, which includes a fatal injury sustained by a bicyclist. Our overall enforcement (DUI arrests and hazardous moving citations) decreased 40%, from 897 to 542. DUI arrests decreased by 6, or roughly 15%, from 40 in 2002 to 34 in 2003.

Driving under the influence involved collisions decreased by two this year going from nine in 2002 to seven in 2003, a 22% decrease. There were no felony DUI involved traffic collisions in 2003. (Even though DUI collisions are up state wide.)

Administrative/mechanical citations decreased from 343 in 2002 to 210 in 2003, which is a 39% decrease. Parking citations decreased from 1540 in 2002 to 1013 in 2003, which represents a 34% decrease.

The traffic enforcement index for Larkspur was down in 2003; it decreased from 21.87 to 12.04

Chief Green's Comments:

During 2003, our efforts towards selective traffic enforcement have accomplished what we had hoped for. With money received from the State Office of Traffic Safety last year, we purchased a new Mobile Radar Trailer. Deployment of this traffic calming device was put in use an average of four days a week in neighborhoods and main streets within Larkspur and Corte Madera. The trailer was also an integral part in the traffic team's "Speed Enforcement Week" campaigns. The trailer was used in conjunction with "Strict Enforcement Zone" signs and aggressive speed enforcement to reduce our speed related injury accident experience. In May and November, our traffic officers conducted seat belt checkpoints on Magnolia Ave and Madera Blvd. It is still surprising to see how many of our citizens do not wear this simple life saving device. In a two hour period, 88 violators were contacted in Larkspur and 73 in Corte Madera—an amazingly high number of drivers and passengers not using this life saving device. In addition to aggressive speed enforcement, the traffic team conducted several pedestrian right-of-way enforcement campaigns that resulted in 38 motorists being cited for violating pedestrians' right-of-way. The program involved the traffic team and our two community service officers who acted as "decoys." The campaign was well received by members of our communities. For their efforts during the year, the traffic team was nominated for and received an award from the Office of Traffic Safety for their results in reducing the number of speed related injury collisions during the OTS grant period.

Lastly, even with the budget crisis affecting many City and Town services, traffic safety will continue to be a priority in our communities, accomplished through efficient and humanistic traffic enforcement and education.

Paramedics attend to an injured bicyclist after a serious collision.

2004 Projected Plans:

During the up coming year, the traffic team will be working in conjunction with our School Resource Officer on implementation of the acclaimed "Every 15 Minutes" DUI educational program at Redwood High School. This program will hopefully assist in educating teen drivers on the consequences of driving under the influence. Additionally, the traffic team plans on conducting additional seat belt checkpoints, continuing with "Speed Enforcement Weeks" campaigns, and conducting several more pedestrian "sting" campaigns. The speed enforcement weeks will focus our enforcement efforts on speeding motorists along the Tamalpais-Magnolia corridors—all in an effort to reduce speed related collisions. Bicycle violations will be a priority this year as well.

In closing, I am confident that our enforcement and educational efforts in the coming year will make our roadways safer.

MAY 18 '04 10:41AM WSA SAN FRANCISCO 415 436 9337 P.9/13

Three Year Comparison

COLLISIONS.....	2001	2002	2003
Total Coll Reported*..	90	96	88
City Street Collisions..	72	78	75
Private Property Collisions	18	18	13
Property Damage Collisions	32	37	30
Injury Collisions....	40	41	45
Fatal Collisions.....	0	0	1
Hit & Run Collisions	6	3	5

**Collisions where police respond and take a report*

ENFORCEMENT	2001	2002	2003
Total Arrests.....	1007	897	542
Drunk Driving.....	47	40	34
Speed (Radar).....	364	411	297
Speed (Other).....	8	14	12
Ped Rt of Way.....	15	15	10
Bicyclists.....	21	16	2
Other Moving.....	588	401	187
Admin/Mech.....	306	343	210
Parking.....	958	1540	1013
ENFORCEMENT INDEX **	25.17	21.87	12.04

2003 Collisions

COLLISIONS:

Total Collisions Reported..... 88

City Street Collisions..... 75

Private Property Collisions..... 13

Property Damage Collisions..... 30

Injury Collisions..... 45

Fatal Collisions..... 1

Hit and Run Collisions..... 5

Collisions involving injuries

Motorcycles..... 2

Pedestrians..... 3

Bicyclists..... 13

2003 Enforcement

ENFORCEMENT

Total Arrests..... 542

Drunk Driving..... 34

Speed (Radar)..... 297

Speed (Other)..... 12

Ped Rt of Way..... 10

Bicyclists..... 2

Other Moving..... 187

Admin/Mech..... 210

Parking..... 1013

"Collision Related"

Felony Drunk Driving..... 0
Misdemeanor Drunk Driving..... 7

***The "Traffic Enforcement Index" is the total number of hazardous cites divided by the number of injury accidents. An enforcement index of 20 is considered by most in law enforcement to be the benchmark of effective traffic enforcement.*

Larkspur / Corte Madera Combined

COLLISIONS	Larkspur	Corte Madera	Combined
Total Collis. Reported....	88	87	175
City Street Collisions.....	75	76	151
Priv. Prop. Collisions.....	13	11	24
Prop. Damage Collisions..	30	40	70
Injury Collisions.....	45	36	81
Fatal Collisions.....	1	0	1
Hit & Run Collisions.....	5	7	12
Injury" Collisions Involving"			
Motorcycles.....	2	0	2
Pedestrians.....	3	2	5
Bicyclists.....	13	9	22
"Collisions Related"			
Felony Drunk Driving.....	0	1	1
Misdemeanor Drunk Driving..	7	8	15

This driver "cut" the corner just a little too sharp!

Larkspur / Corte Madera Enforcement Totals

ENFORCEMENT	LK	CM	Combined
Total Arrests.....	542	642	1184
Drunk Driving.....	34	35	69
Speed (Radar).....	297	376	673
Speed (Other).....	12	11	23
Other Moving.....	199	220	419
Admin/Mech.....	210	179	389
Parking.....	1013	321	1334
ENFORCEMENT INDEX	**12.04**	**17.83**	**14.61**

Seat Belt check point nets 88 violators.

Common Primary Collision Factors

Injury Collisions
Common Primary Collision Factors

# Accidents	Primary Collision Factors	Percent
15	Unsafe Speed	33 %
5	Red signal	11 %
5	Other	11 %
5	Right of way	11 %
4	Unsafe Turning	8 %
3	Unknown Cause	6 %
2	Ped right of way	4 %
2	Driving While Intoxicated	4 %
1	Failure to Stop/Sign	2 %
1	Right half of road	2 %
1	Unsafe Start/Backing	2 %
1	Open Car Door	2 %

Property Damage Only
Common Primary Collision Factors

Total	Primary Collision Factors	Percent
7	Unsafe speed	23 %
5	Unsafe Start/Backing	16 %
4	Drunk Driving	13 %
4	Unsafe Turning	13 %
3	Right of Way	10 %
3	Unknown	10 %
3	Other	10 %
1	Failure to set Brake	3 %

Collisions by Month

Month	# Injury Collisions
January	4
February	2
March	5
April	3
May	3
June	8
July	3
August	3
September	3
October	4
November	3
December	4

Month	# Property Damage Collisions
January	1
February	2
March	5
April	3
May	4
June	2
July	3
August	0
September	3
October	0
November	2
December	5

Roadway Frequency

Injury Collisions

# Collisions	Roadway	Percent
14	E. Sir Francis Drake Blvd.	31 %
9	Magnolia Ave.	20 %
8	Sir Francis Drake	17 %
4	Doherty Drive	8 %
2	South Eliseo	4 %
2	Via Hidalgo	4 %
1	Larkspur Landing Circle	2 %
1	Redwood Hwy	2 %
1	Larkspur Plaza	2 %
1	Bon Air Road	2 %
1	Drake's Landing	2 %
1	Marina Vista	2 %

Property Damage Only

# Collisions	Roadway	Percent
6	Magnolia Ave.	20 %
6	E. Sir Francis Drake Blvd.	20 %
2	Doherty Drive	6 %
2	Piper Park Ln.	6 %
2	Redwood Hwy	6 %
2	Larkspur Landing Circle	6 %
1 each	Corte Ramon, Piedmont, Locust Via Hidalgo, Parkside, Paseo, Marina Vista, South Eliseo, Via Casitas, and Via La Cumbre	3 %

Budget cuts force Larkspur firemen to shower when they can!

This driver didn't quite make the three-point turn around—oops!

APPENDIX F-6

CITY AND COUNTY OF SAN FRANCISCO TRANSPORTATION IMPACT ANALYSIS GUIDELINES

Appendix H

FREIGHT DELIVERY AND SERVICE DEMAND METHODOLOGY

Peak Hour* Generation

Number of Spaces per 1,000 GSF = [(1.25)(R)/9]/(2.4)

Average Hour Generation

Number of Spaces per 1,000 GSF = [(R)/(9)]/(2.4)

Daily Truck Trip Generation Per Use = (R)X(GSF/1,000)

Where:

R	=	Daily truck trip generation per 1 000 GSF of use from Table I-1
1.25	=	Peak Hour deliveries at 25% higher rate than other hours
9	=	Number of hours deliveries are made (8:00 a.m. - 5:00 p.m.)
2.4	=	Assuming average truck delivery/pickup of 25 minutes, 2.4 trucks could be accommodated per hour

*NOTE: Peak Hour Truck Trip Generation generally occurs between 10:00 a.m. and 1:00 p.m., and is unrelated to P.M. Peak Hour used in other transportation analyses.

TABLE H-1

DAILY TRUCK TRIP GENERATION RATE PER 1,000 SQUARE FEET OF FLOOR AREA, BY LAND USE

Office	0.21
Bank	0.30
Retail (Composite)	0.22
Wholesale	0.80
Apparel	0.45
Department Store	0.24
Furniture	0.39
Restaurant/Bar	3.60
Drug Store	3.70
Speciality Shops	0.18
Services	
Hotel	0.09
Institution	0.10
Business	1.80
Parking	0.03
Administration	0.40
Warehousing	0.46
Manufacturing	0.51
Light Industry	0.65
Residential	0.03

Source: Center City Pedestrian Circulation and Goods Movement Study (Wilbur Smith & Associates for San Francisco Department of City Planning). September 1980.

TABLE H-2

PERCENT DAILY SERVICE VEHICLE ACTIVITY BY VEHICLE TYPE

Cars and Pickups	25%
Vans	42%
Small Delivery Trucks[5] 2 axles	9%
Large Delivery Trucks[6] 2 axles	19%
Large Delivery Trucks[7] 3 axles	4%
Tractor - Trailer 4 axles	1%

5 Characterized as a small courier, U.S. Mail truck or step van

6 Characterized as a mid-size Hertz rental truck, beverage truck or small furniture truck

7 Characterized as a garbage truck

Source: DKS Associates, 1990

On-site Accommodation of Garbage and Recycling Needs

Many existing commercial and large residential sites have generated problems associated with use of loading areas, sidewalks, and/or street space for garbage storage and recycling operations. Prospective projects need to provide sufficient details about how garbage and recycling operations will be handled to ensure that future problems will be avoided. The project site plans should clearly indicate dedicated on-site space which will be used to store recycled materials and garbage, including any compacting facilities. Whenever such on-site recycling and garbage storage facilities would not be clearly accessible for pick-up operations, a clear access path and well-defined procedures to provide for garbage and recycling pick-ups should be set forth. Garbage and recycling storage should be designed to avoid use of freight loading areas and public rights-of-ways. The locations for garbage and recycling pick-up operations should be situated to minimize the potential for disruptions to traffic, transit, pedestrian, and bicycle circulation.

Vehicular Space Needs for Hotel Guest Loading/Unloading Activities

Transportation impact analyses should address whether adequate space to accommodate vehicles serving hotel guests would be provided. Guest vehicular space needs may include private autos, taxis, vans, limousines, private buses, and valet parking operations. In order to avoid on-street queueing and disruptions to traffic, transit and/or pedestrian flows, adequate facilities should be provided, preferably on the project site.

The extent of vehicular space needs should be quantified based on trip generation rates. The techniques to be applied for estimating hotel vehicular space needs by the number of passenger car equivalents (PCEs) are as follows:

1) determine the number of p.m. peak hour arrivals (inbound vehicle trips plus outbound vehicle trips) using the trip generation and mode split information in these *Guidelines*;
2) miltiply the number of arrivals by a peaking factor of two (2) and divide by four (4) to estimate the number of vehicle arrivals during the peak 15-minute period;
3) multiply the number of vehicle arrivals during the peak 15-minute period by the average duration of a stop (1.5 minutes based on surveys) and divide by 15 minutes to estimate the peak demand for passenger loading in PCEs during any one minute of the peak 15 minute period.

These techniques yield an estimate of the amount of linear space (in passenger car equivalents) needed to accommodate hotel vehicular space needs. The estimated hotel vehicular space needs should be compared to the amount of space proposed to be provided in an on-site porte cochere or at an adjacent curb space. Surveys of vehicular activities at several downtown hotels have documented peak vehicular space needs of about 0.2 PCEs per room, but estimates derived from trip generation rates may be greater.

Appropriate adjustments should be made to account for the needs of over-sized vehicles such as limousines or private buses. The analysis should also account for constraints due to any likely reservations of space between users, e.g., reserved taxi zones or bus space. Any deficiencies in the amount of space provided compared to estimated hotel vehicular space needs should be identified. Whenever any deficiencies are identified, measures to address any such deficiencies, as well as potential impacts if such measures were not implemented, should be set forth in the background transportation report.

In addition to determining the adequacy of hotel vehicular space, the analysis should address the potential for conflicts between hotel guest needs (i.e., luggage and guests waiting for pick-up) and pedestrian circulation. Typically, this would include a pedestrian LOS analysis for the most constrained sidewalk segment as well as careful evaluation of potential disruptions and hazards which may affect pedestrians. Measures to address any deficiencies or conflicts should be identified and potential impacts if such measures were not implemented should be set forth.

Example Applying Methodology to Calculate PCEs for Passenger Loading Needs at Hotels:

1. Based on the rates in these *Guidelines*, assume a project is expected to generate 30 inbound and 40 outbound vehicle trips during the p.m. peak hour. Assume that all of thes trips would involve a vehicle (car) stopping in a passenger loading area (either for a typical passenger drop-off or dropped-off (or pick-up) for valet parking).

2. 70 arrivals * (times) peak factor of 2 divided by 4 = 35 vehicles during the peak 15 minutes of the p.m. peak hour.
3. 35 arrivals during the peak 15-minute period * (times) average stop duration of 1.5 minutes divided by 15 minutes = 3.5 PCEs during the peak minute.

APPENDIX F-7

PLANNING FOR RESIDENTIAL PARKING: A GUIDE FOR HOUSING DEVELOPERS AND PLANNERS (NON-PROFIT HOUSING ASSOCIATION OF NORTHERN CALIFORNIA, 2004)

Planning for Residential Parking: A Guide For Housing Developers and Planners

>

FEEDBACK | PRIVACY | SITE MAP

NPH

GOOGLE SEARCH

THE VOICE OF AFFORDABLE HOUSING

MEMBERS ONLY LOGIN | WHAT'S NEW | ABOUT NPH | ACTION CENTER | KNOWLEDGE

NPH works to advance affordable housing as the found
for thriving individuals, families and neighborhoods.
the collective voice of those who support, build an
operate affordable housing, NPH promotes the prov
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Parking & Housing

Removing A Barrier to Affordability and Smart Growth

An Initiative of the Non Profit Housing Association of Northern California

This website is the host of research conducted by the Non-Profit Housing Association of Northern California. The research grew out of a common complaint of the affordable housing development community, that the issue of parking is typically one of the most significant barriers in the housing development process. Minimum parking requirements in local zoning codes, developers say, are increasing development costs, reducing attainable density, detracting from design quality, and reducing the amount of amenities which developers can provide residents. Worst of all, if developers are serving communities with lower vehicle ownership rates, then they are being forced to build parking which their tenants don't need.

NPH began its research in the summer of 2000, exploring how it could address this issue. A focus group in August 2000 among developers, architects, housing policy makers and planners identified 3 principal audiences who could benefit from tailored publications: **the public**, whose concern about parking and traffic impacts of new housing often drive local policy; **local policy makers,** including elected officials, planning commissioners, and planners; and, **developers**, especially affordable housing developers, whose arguments that a transit oriented location and a unique population will require less parking, are often met with skepticism.

There are three primary resources that resulted from this work:

Parking & Housing: Best Practices for Increasing Housing Affordability and Achieving Smart Growth

This report, soon to be available in PDF format, is an analysis of how parking impacts housing affordability. Given the joint transportation and housing crises in the Bay Area, the report takes an updated look at the role of minimum parking requirements for housing. In most cases, minimum parking requirements do not reflect important factors like income, age, density and access to transit. It suggests a portfolio of strategies for all Bay Area communities to deal with parking and housing.

Rethinking Residential Parking: Myths & Facts

This short report is for general public education. Available in both small booklet and pamphlet form, Rethinking Residential Parking, presents research findings and strategies in jargon-free, concise form. It includes case studies of successful policies and developments. This report is for use by planners and developers dealing with communities concerned about the impact of new housing.

Planning for Residential Parking: A Guide For Housing Developers and Planners

This Guide, as a website, is the directed primarily to affordable housing developers, but is also meant to aide local planners in the practice of dealing with residential parking. In it is useful data, a tool for predicting parking demand at a specific development, strategies for meeting transportation needs of residents by means other than parking (which can allay local fears of spillover parking), [strategies] for interacting with communities and local policy makers, [responses to frequent counter arguments to many of the points developers are likely to make].

Overview

1. Income and Vehicle Ownership

2. Age and Vehicle Ownership

3. Density, Transit and Vehicle Ownership

4. Price of Parking and Vehicle Ownership

5. Trip Generation Data

6. Getting Local Data

Exchange / Feedback

Data: Vehicle Ownership Data and Trip Generation Data

Overview

1. Income and Vehicle Ownership

2. Age and Vehicle Ownership

3. Density, Transit and Vehicle Ownership

4. Price of Parking and Vehicle Ownership

5. Trip Generation Data

6. Getting Local Data

Exchange / Feedback

Introduction

Looking closely at data on vehicle ownership reveals that certain housing types are less likely to need as much parking as other. The data in this section is the core of the argument that affordable and special needs housing, in dense areas, with good transit access, deserve breaks from city wide minimum parking requirements. This section provides access to useful data, research and visuals and shows developers and planners how to obtain relevant local data.

Purpose

1. Access to useful data, research and visuals that can be used in variance applications, discussions with traffic engineers, or policy analyses.
2. Tools for obtaining relevant local data for the same use.

Content

Some general facts are provided in each category, as well as links to charts and spreadsheets with more data so that developers can tailor an application to its particular situation and planners can better understand the dynamics of vehicle ownership.

This data is generally regional, thus is more useful than the national data usually used to make these points. Local governments, however, will continue to hold that local conditions make their situation unique. It is always useful to get more local data at the city and neighborhood level. See Getting Local Data for easy ways to obtain neighborhood and city vehicle ownership rates.

This Section is divided into the following areas:

1. Income and Vehicle Ownership
2. Age and Vehicle Ownership
3. Density, Transit and Vehicle Ownership
4. Price of Parking and Vehicle Ownership

Since both housing and transportation issues have reached crisis proportions in the Bay Area, it is crucial that we re-examine our basic assumptions about parking requirements.

New research and previous studies indicate that:

- *Parking is one of the most significant barriers in the housing development process*
- *Minimum parking requirements typically do not reflect actual car ownership rates*
- *Minimum parking requirements increase development costs, typically by $20,000 to $30,000 per unit*
- *Minimum parking requirements reduce housing production and the amenities which developers can provide residents*
- *Affordable housing developers are often required to build more parking than the building residents need*

This site and two publications (available **here**) are 3 complimentary tools for the planners, developers, advocates, and public officials to use in order to communicate the impact of minimum parking requirements on the affordability and availability of housing and improve planning and policy around residential parking. For more background on this research, see **About**. For a more detailed site outline, go to **Contents**, otherwise, go straight to one of nine sections of this site:

Data	***Vehicle Ownership and Trip Generation Data***
Costs	***Assessing and Communicating the Costs of Parking***
Model	***The Housing Development Vehicle Ownership Model***
Unbundling	***"Unbundling" Parking and Housing for Fairness, Efficiency, Units, and Savings***
Plans	***From Parking to Transportation, "Transportation Management Plans"***
Policies	***Reasonable and Necessary Policies for Smart Parking Planning***
Examples	***Case Studies and Other Examples of Good Parking Planning and Policy***
Resources	***Other Resources for Parking Planning & Policy***
Exchange	***Sharing of Experiences for Improved Planning For Parking***

1. Income and Vehicle Ownership

a. Income and Vehicle Ownership
b. Household Size, Income and Vehicle Ownership
c. Housing Unit Type, Income and Vehicle Ownership
d. Housing Tenure, Income and Vehicle Ownership

a. Income and Vehicle Ownership

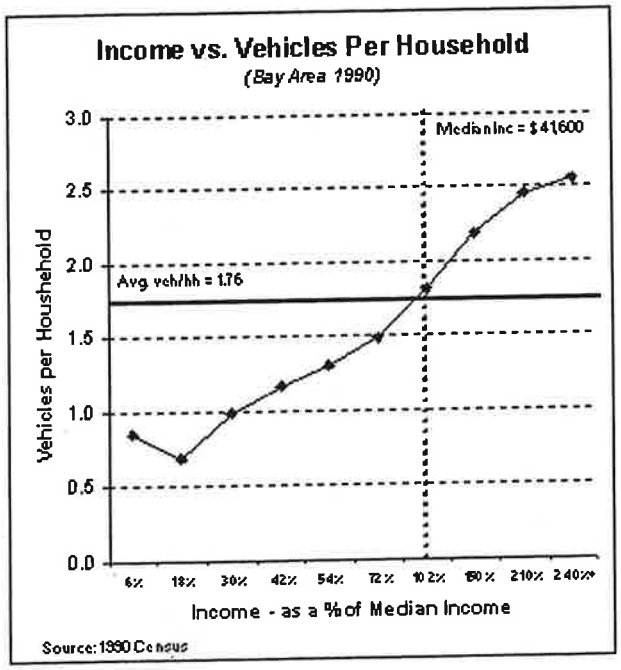
The argument is often made but not always listened to: low income households will own fewer vehicles, and thus less parking is needed. Well, all data, including Bay Area specific data, holds that vehicle ownership is significantly lower among lower income households.

Not only is there a statistical relationship, but transportation research has identified as the most significant factor in determining the amounts of vehicles owned by households. In a review of 17 studies since 1966 on vehicle ownership, the most common variable (in 15 of 17 studies) found to have a significant association with vehicle ownership was household income.[1]

In 1990, the average number of vehicles per household was 1.76 in the Bay Area. However, households earning between 48 and 60 percent of the median income owned on average only 1.30 vehicles, 26% below the region wide mean. Below is a chart and table with the relationship between income and vehicle ownership in the region. After the chart is a table of the data. The data is also available in Excel format.

Observation *Lower income households own fewer vehicles per household than average.*

Implication *Minimum parking requirements could be decreased for housing that will permanently serve lower income households.*



Income (in 1990)	Inflation Adjusted 1990 Income in 2000 Dollars (in thousands)	Income as % of Median Income	Midpoint of Median Income Range	Average Vehicles per Household	Percent of Households w/ 0 Vehicles	Number Household
less than $5000	less than $6.8	0% -12%	6%	**0.85**	**37.7%**	71,963
$5,000 - $9,999	$6.8 - $13.6	12% - 24%	18%	**0.68**	**46.9%**	138,415
$10,000 - $14,999	$13.6 - $20.5	24% - 36%	30%	**0.98**	**27.7%**	128,457
$15,000 - $19,999	$20.5 - $27.3	36% - 48%	42%	**1.16**	**18.7%**	133,856
$20,000 - $24,999	$27.3 - $34.1	48% - 60%	54%	**1.30**	**13.2%**	148,345
$25,000 - $34,999	$34.1 - $47.7	60% - 84%	72%	**1.49**	**8.8%**	305,727
$35,000 - $49,999	$47.7 - $68.2	84% - 120%	102%	**1.81**	**4.4%**	417,309
$50,000 - $74,999	$68.2 - $102.3	120% - 180%	150%	**2.18**	**2.2%**	478,515
$75,000 - $99,999	$102.3 - $136.4	180% - 240%	210%	**2.45**	**1.3%**	223,337
$100,000 or more	$136.4 or more	> 240%	240%+	**2.56**	**1.0%**	205,051
All Households				**1.76**	**10.3%**	2,250,975

Excel Spreadsheet - Income vs. Vehicle Ownership

How to Use This Information:

The charts and data on this page (also available below in an Excel spreadsheet) are specific to the Bay Area and can be used in discussions with communities and local governments/planning departments.

1. You can "right-click" in your browser on the chart, and
2. Click "Save Image As" to save the chart as a GIF file which you can use for applications and presenations.

Otherwise, download the Excel files which has both the chart and the table. Use the appropriate income level as a fact in your applications and analyses. For example, if your project targets households at 35% of AMI, you may want to point out that households earning between 24% and 36% of the regional median income averaged 0.98 vehicles, 44% below the region wide mean of 1.76.

Back to Top

Next: b. Household Size, Income and Vehicle Ownership

Sources:

Vehicle ownership data compiled from MTC compilations of 1990 US Census Data Metropolitan Transportation Commission. 1995. San Francisco Bay Area Detailed Household Characteristics. Availabe at http://www.mtc.ca.gov/datamart/census.htm (Visited March 2001).

Inflation of 1990 Income to 2000 dollars, based on an inflation factor of 1.364. Inflation index is calculated for the Bay Area and is available from ABAG. Available at: http://www.abag.ca.gov/abag/overview/datacenter/retail/cpi.html (Visited March 2001)

Ewing, Reid and Shi-Chiang Li. 1998. A Vehicle Ownership Model for FSUTMS. Washington, D.C.: National Research Council, Transportation Research Board.

3. Sample of Bay Area Minimum Parking Requirements

Below is a table, for comparative purposes, of many Bay Area cities minimum parking requirements for multi-family housing (usually including duplexes).

For comparison purposes, the required off-street parking spaces, including guest parking, was calculated for a hypothetical 100 unit development consisting of: 10 studios, 40 one bedroom units, 40 two bedroom units, and 10 three bedroom units. The municipalities are listed from the highest required spaces to the lowest.

	Minimum Required Parking Spaces per Unit for Multi-Family Developments (by Unit Type, Guest for all Units)					Hypothetical 100 Unit Development	
	Studio	1 BR	2 BR	3 BR	Guest	Total Spaces	Spaced Per Unit
Los Gatos	1.5	1.5	1.5	1.5	1	250	2.50
Dublin	1.8	1.8	2.8	2.8		230	2.30
Redwood City	2.25	2.25	2.25	2.25		225	2.25
San Leandro	1.5	1.5	2.25	3.5	1/4	225	2.25
Pleasant Hill	1.5	1.5	2	2	1/2	225	2.25
Foster City	1	1.5	2	2	1/2	220	2.20
Morgan Hill	2	2	2	2	1/5	220	2.20
Mountain View	2	2	2	2	1/7	215	2.15
Milpitas	1	2	2	2	1/5	210	2.10
Cotati	2	2	2	3		210	2.10
Concord	1.5	1.5	2	2	1/3	208	2.08
Fremont	2	2	2	2		200	2.00
Santa Rosa	1.5	1.5	2	2		200	2.00
Union City	1.5	1.5	2	2	1/4	200	2.00
Cupertino	2	2	2	2		200	2.00
Menlo Park	2	2	2	2		200	2.00
Rohnert Park	2	2	2	2		200	2.00
Alameda County	2	3	4	5		200	2.00
Sonoma County	1.5	1.5	2.5	2.5		200	2.00
Vallejo	1.5	1.5	2	2	1/5	195	1.95
Campbell	1.5	1.5	2	2	1/5	195	1.95
Pleasanton	1.75	1.75	1.75	2	1/7	192	1.92
San Mateo	1.5	1.8	2	2.2		189	1.89
Hayward	1.5	1.7	2.1	2.1		188	1.88
Palo Alto	1.25	1.5	2	2	1/10	183	1.83
Burlingame	1.5	1.5	2	2.5		180	1.80
Walnut Creek	1.25	1.5	2	2.25		178	1.78
Sunnyvale	1.5	1.5	2	2		175	1.75
Santa Clara County	1.25	1.5	2	2		173	1.73
Daly City	1	1.5	2	2		170	1.70

Millbrae	1	1.5	2	2		170	1.70
San Jose	1.5	1.5	1.8	2		167	1.67
Vacaville	1	1	2	2	1/7	164	1.64
Fairfield	1	1.33	1.5	2	1/5	163	1.63
Livermore	1.5	1.5	1.75	1.75		163	1.63
Petaluma	1	1	2	3		160	1.60
San Mateo County	1	1.2	1.5	2	1/5	158	1.58
Oakland	1.5	1.5	1.5	1.5		150	1.50
Healdsburg	1.5	1.5	1.5	1.5		150	1.50
Emeryville	0.5	1	1.5	1.5	1/4	145	1.45
East Palo Alto	1	1.2	1.5	2		138	1.38
Benicia	1	1	1.5	1.5		125	1.25
San Francisco	1	1	1	1		100	1.00
Berkeley	1	1	1	1		100	1.00

Notes:

San Jose and Sunnyvales parking requirements are for open lot assignment. They increase if parking is provided via one or two car garages.

Vacaville, Benecia, Campbell and Cotati did not specify MPRs for studios. The MPR for one bedrooms is shown here

Sources:

Cook, J., et. al. 1997. Parking Policies in Bay Area Jurisdictions: A Survey of Parking Requirements, Their Methodological Origins, and an Exploration of Their Land Use Impacts. Paper in City Planning 217. Berkeley, Calif.: University of California.

Various Municipal Codes as available on the Internet.

TOOL BOX

Residential Parking

Data:

Overview
1. Income and Vehicle Ownership
2. Age and Vehicle Ownership
3. Density, Transit and Vehicle Ownership
4. Price of Parking and Vehicle Ownership
5. Trip Generation Data
6. Getting Local Data

2. Age and Vehicle Ownership

a. 100% Senior Households vs. No Senior Households - Bay Area
b. 100% Senior Households vs. No Senior Households - By Income
c. 100% Senior Households -- Vehicle Ownership By Unit Type
d. 100% Senior Households -- Vehicle Ownership By Tenure

This section looks at the vehicle ownership patterns of households which are composed completely are seniors. Thus the data has direct relevance of the parking needs of affordable senior housing c Of course, vehicle ownership rates will vary in different locations, however, the data shows that sei own significantly fewer vehicles than households at large.

Observation *Households composed entirely of seniors own significantly fewer vehicles pe than average.*

Implication *Minimum parking requirements should be lower for housing dedicated to se*

The data used if either from MTC's 1990 Household Travel Survey or the 1995 Nationwide Personal Survey. The data below is also available in Excel - Age and Vehicle Ownership

a. 100% Senior Households vs. No Senior Households - Bay Area

As the table below shows, vehicle ownership rates decline as the age increases from 62, to 65, to 7

Table: Bay Area Veh/HH for All Households, HH w/0% Seniors, HH w/100% Seniors

	Vehicles/HH	# of cases	
All Households	1.76	9,359	
Household w/ No One Aged 62 and Over	1.89	7,486	
Households w/ 100% Aged 62 and Over	1.29	1,201	-31.7
Household w/ No One Aged 65 and Over	1.89	7,802	
Households w/ 100% Aged 65 and Over	1.24	1,000	-34.4
Household w/ No One Aged 75 and Over	1.86	8,788	

Households w/ 100% Aged 75 and Over	0.89	302	-52.2

Source: 1990 MTC Household Travel Survey

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b. 100% Senior Households vs. No Senior Households - By Income

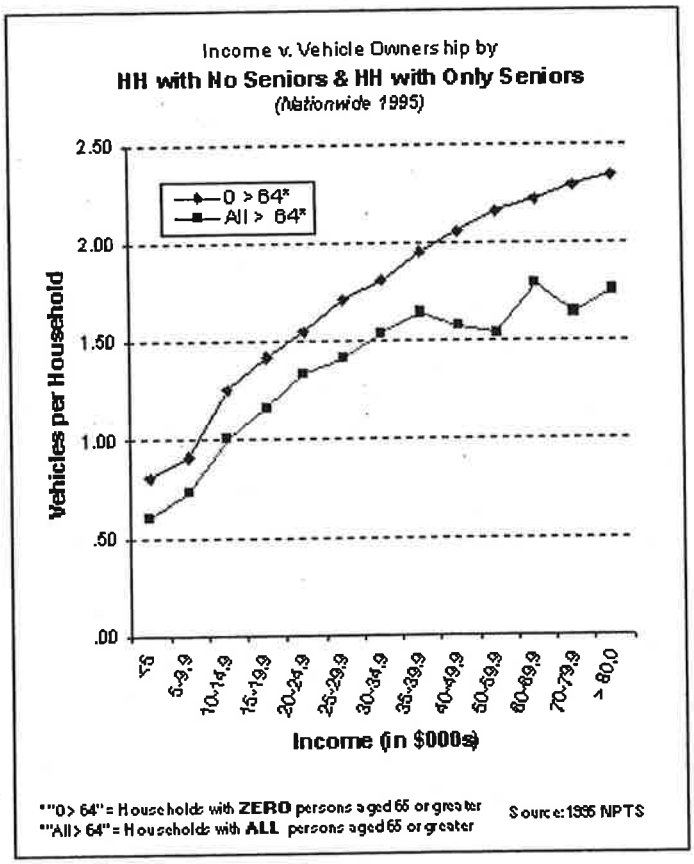

Table: Vehicle Ownership Rates by Income for Households with No Seniors vs. 100% Senior Households

Income	Vehicles per Household 0 > 64*	Vehicles per Household All > 64*	Difference (in Veh/HH)	All 0 >
less than $5000	.81	.61	.20	7.
$5,000 - $9,999	.92	.73	.18	8
$10,000 - $14,999	1.26	1.01	.25	8
$15,000 - $19,999	1.42	1.16	.26	8
$20,000 - $24,999	1.55	1.34	.22	8
$25,000 - $29,999	1.72	1.41	.30	8
$30,000 -$34,999	1.81	1.54	.27	8.

$35,000 - $39,999	1.96	1.65	.31	8
$40,000 - $49,999	2.06	1.58	.48	7
$50,000 - $59,999	2.16	1.54	.62	7
$60,000 - $69,999	2.22	1.79	.43	8
$70,000 - $79,999	2.29	1.65	.64	7
$80,000 or more	2.35	1.76	.59	7
Total	1.89	1.20	.69	6

* "0 > 64" = Households with zero persons aged 65 or greater
*"All > 64" = Households with all persons aged 65 or greater

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c. 100% Senior Households -- Vehicle Ownership By Unit Type

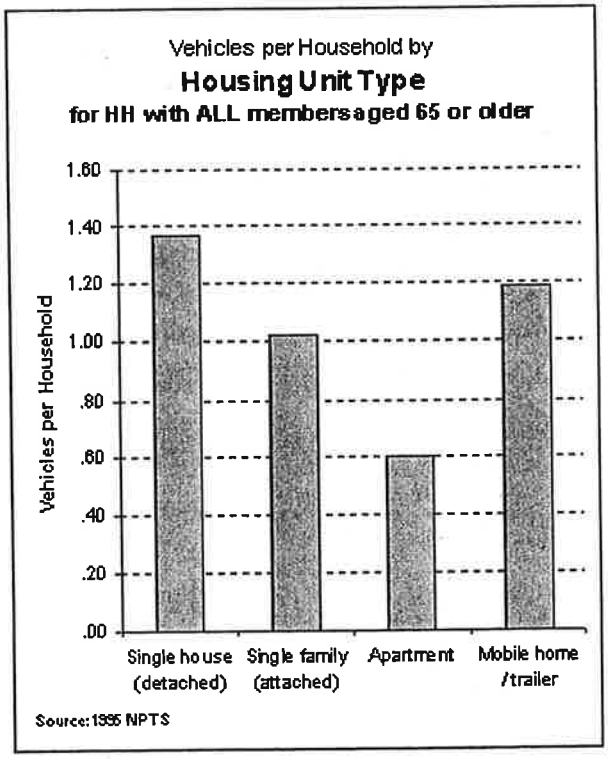

Table: Veh/HH for Senior HH by Unit Type

Housing Unit Type	Vehicles per Household
Single house (detached)	1.37
Single family (attached)	1.03
Apartment	.60

Mobile home / trailer	1.19

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d. 100% Senior Households -- Vehicle Ownership By Tenure

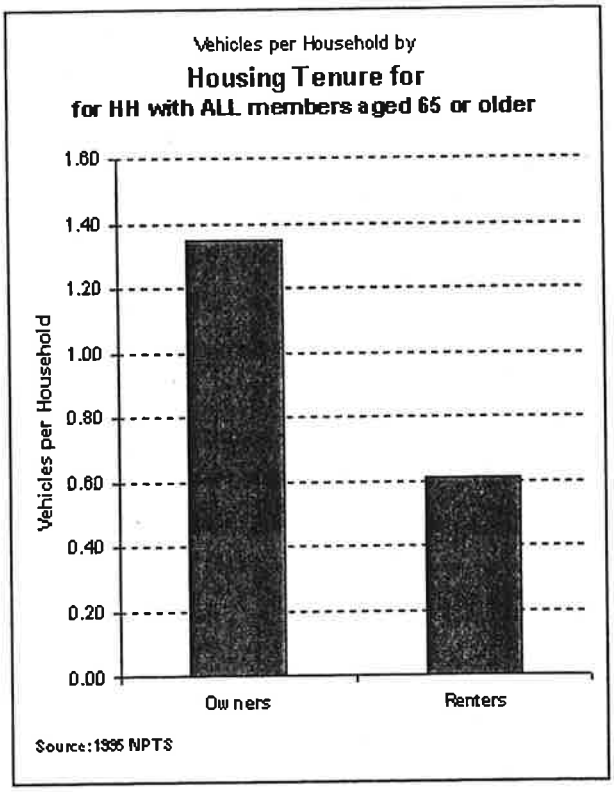

Table: Veh/HH for Senior HH by Tenure

Tenure	Vehicles per Household
Owners	1.35
Renters	0.61

Source: 1995 Nationwide Personal Transportation Survey

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How to Use This Information:

The charts and data on this page (also available below in an Excel spreadsheet) are specific to the can be used in discussions with communities and local governments/planning departments.

- You can "right-click" in your browser on the chart, and
- Click "Save Image As" to save the chart as a GIF file which you can use for applications and

Otherwise, download the Excel file (Age and Vehicle Ownership) which has both the chart and the t appropriate income level as a fact in your applications and analyses.

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Next: Density, Transit and Vehicle Ownership

Sources:

Metropolitan Transportation Commission. 1996. 1990 MTC Household Travel Survey. Oakland, Calif

U.S. Department of Transportation, Federal Highway Administration. 1997. 1995 Nationwide Perso Transportation Survey. Washington, D.C.

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APPENDIX G-2

CENTRAL LARKSPUR SPECIFIC PLAN ENVIRONMENTAL ASSESSMENT

CENTRAL LARKSPUR SPECIFIC PLAN ENVIRONMENTAL ASSESSMENT

November 30, 1999

◆ ◆ ◆

Prepared for:

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Prepared by:

Richard R. Illingworth, PE

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(415) 459-5507

Job No.: 99-144

TERM	DEFINITIONS
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).
Frequency, HZ	The number of complete pressure fluctuations per second above and below atmospheric pressure.
A-Weighted Sound Level, dB	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted, unless reported otherwise.
L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Equivalent Noise Level, L_{eq}	The average A-weighted noise level during the measurement period.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 pm to 10:00 pm and after addition of 10 decibels to sound levels measured in the night between 10:00 pm and 7:00 am.
Day/Night Noise Level, L_{dn}	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 pm and 7:00 am.
L_{max}, L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Definitions Of Acoustical Terms | **Table 1**

ILLINGWORTH & RODKIN, INC./Acoustical Engineers

Since the sensitivity to noise increases during the evening and at night -- because excessive noise interferes with the ability to sleep -- 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The *Community Noise Equivalent Level, CNEL*, is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 pm - 10:00 pm) and a 10 dB addition to nocturnal (10:00 pm - 7:00 am) noise levels. The *Day/Night Average Sound Level,* L_{dn}, is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period.

Effects of Noise

Hearing Loss

While physical damage to the ear from an intense noise impulse is rare, a degradation of auditory acuity can occur even within a community noise environment. Hearing loss occurs mainly due to chronic exposure to excessive noise, but may be due to a single event such as an explosion. Natural hearing loss associated with aging may also be accelerated from chronic exposure to loud noise.

The Occupational Safety and Health Administration (OSHA) has a noise exposure standard which is set at the noise threshold where hearing loss may occur from long-term exposures. The maximum allowable level is 90 dBA averaged over eight hours. If the noise is above 90 dBA, the allowable exposure time is correspondingly shorter.

Sleep and Speech Interference

The thresholds for speech interference indoors are about 45 dBA if the noise is steady and above 55 dBA if the noise is fluctuating. Outdoors the thresholds are about 15 dBA higher. Steady noise of sufficient intensity (above 35 dBA) and fluctuating noise levels above about 45 dBA have been shown to affect sleep. Interior residential standards for multi-family dwellings are set by the State of California at 45 dBA L_{dn}. Typically, the highest steady traffic noise level during the daytime is about equal to the L_{dn} and nighttime levels are 10 dBA lower. The standard is designed for sleep and speech protection and most jurisdictions apply the same criterion for all residential uses. Typical structural attenuation is 12-17 dBA with open windows. With closed windows in good condition, the noise attenuation factor is around 20 dBA for an older structure and 25 dBA for a newer dwelling. Sleep and speech interference is therefore possible when exterior noise levels are about 57-62 dBA L_{dn} with open windows and 65-70 dBA L_{dn} if the windows are closed. Levels of 55-60 dBA are common along collector streets and secondary arterials, while 65-70 dBA is a typical value for a primary/major arterial. Levels of 75-80 dBA are normal noise levels at the first row of development outside a freeway right-of-way. In order to achieve an acceptable interior noise environment, bedrooms facing secondary roadways need to be able to have their windows closed, those facing major roadways and freeways typically need special glass windows.

Noise levels are significantly lower on portions of the site further from Doherty Drive and Magnolia Avenue. Short-term measurements were conducted on the afternoon of November 24, 1999 at the four locations shown on Figure 1. Sites S1 and S2 were located at the fence line adjacent to the commercial area. S1 was directly behind the Easy Street Café and the major noise source was an exhaust fan. The noise level was measured to be 56 dBA. Assuming that this exhaust fan operates from 6:00 in the morning until 11:00 at night, the L_{dn} at this location would be 58 dBA. Site S2 was adjacent to the Albertson's store loading dock area. During the measurements there were no trucks or activity at the loading dock area. The major noise source was mechanical equipment on the Albertson's roof. The average noise level was 51 dBA due to this equipment. We have measured noise levels adjacent to loading docks at a variety of Lucky and Safeway stores in the area. Typically, maximum levels generated by trucks being unloaded and loaded and pulling out of the area ranged from 75 to 80 dBA at similar distances. The L_{dn} at this location would be about 57 dBA. Site S3 was at the back of the property near the creek. At this location the major noise source was traffic on Meadowood Drive. The L_{eq} was measured to be 44 dBA. The L_{dn} at this location is about 50 dBA. In the absence of traffic noise emanating from Meadowood Drive the background noise levels are very quiet and more typical of a rural area than a suburban area. Noise levels at S4 were dominated by distant traffic on Highway 101 and birds. The average noise level measured in the afternoon at this location was 50 dBA. The L_{dn} at this location is about 55 dBA.

APPENDIX G-3

SOUND AND VIBRATION STUDY

INTRODUCTION

The following report presents the results of environmental noise and vibration assessments conducted in the "S" curve portion of Doherty Drive in the City of Larkspur, CA. Doherty Drive is reported by adjacent homeowners to be a source of noise and vibration, which causes impacts on the use of their homes.

NOISE MEASUREMENT RESULTS

To quantify the existing noise exposure due to vehicular traffic on Doherty Drive at residences adjacent to the 'S' curve segment of the roadway, 24 hour continuous noise measurements were conducted between May 7 and 9, 2002 at three residences, 690 Riviera Circle, 76 Via La Brisa, and 71 Riviera Circle. On the following pages the results of each of the measurements is presented.

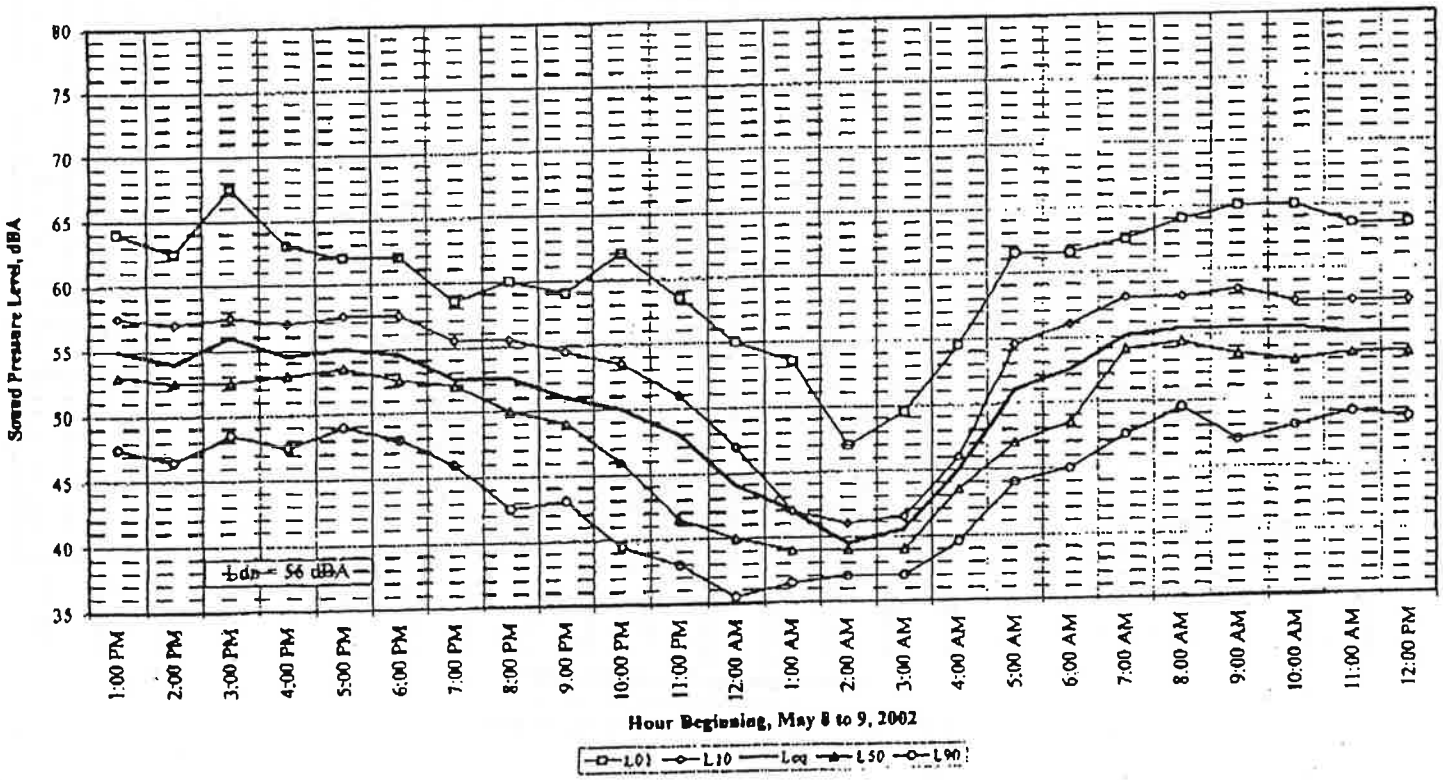
In summary, the noise environments at all the residences along Doherty Drive were found to vary significantly due to the traffic flow characteristics on the adjacent portion of Doherty Drive. Another notable variation in the measured sound levels was due to the noise shielding provided by the existing property line fences, which were higher and more effective at both 76 Via La Brisa, and 71 Riviera Circle when compared to that of 690 Riviera Circle.

76 Via La Brisa

The measurement was made in a tree at approximately 10 feet above grade at the setback of the home's facade, which is approximately 35 feet from the centerline of Doherty Drive, between 1 p.m. on May 8th and 1 p.m. on May 9th, 2002. Traffic passing on Doherty Drive generally traveled at constant speeds. The property line fence between the yard and Doherty drive was of wood construction at a height of approximately 6 to7 feet above rear yard grade with a high degree of foliage cover.

The results of this measurement, including the energy equivalent noise level or L_{eq} and the noise level exceeded 01, 10, 50 and 90 percent of the time (indicated as L_1, L_{10}, L_{50} and L_{90}), are presented in Chart 2, below. A review of this chart shows that daytime and nighttime average (L_{eq}) noise levels ranged from 51 to 56 dBA and 40 to 52 dBA, respectively, with an average daytime L_{eq} of 55 dBA and an average nighttime Leq of 48 dBA. The average day-night noise Level (L_{dn}) was 56 dBA.

Chart 2: 76 Via La Brisa



BACKGROUND CONCEPTS OF GROUNDBORNE VIBRATION

Ground vibration from passing vehicles on surface roadways consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods that are typical used to quantify vibration amplitude. One is the Peak Particle Velocity (PPV) and another is the Root Mean Square (RMS) velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared amplitude of the signal. While the RMS vibration velocity amplitudes have been used by some regulatory agencies, particularly the Federal Transportation Authority (FTA), to evaluate human response to vibration transportation related groundborne vibration, the California Department of Transportation (Caltrans), citing internal experience and other studies, has adopted a PPV descriptor with units of mm/sec. or in/sec. to evaluate transportation generated vibration for building damage and human complaints.[1]

Building damage and people's response to ground vibration caused by surface transportation sources has been best correlated to the vertical velocity component of ground motion. The Transport and Road Research Laboratory in England has studied the reactions of people and the effects on buildings which continuous transportation related vibration levels produce (Vibration produced by traffic is considered continuous in these studies). The conclusions reached are reproduced in Table 1, following.

The annoyance levels shown in Table 1 should be interpreted with care since vibrations may be found to be annoying at much lower levels than those shown, depending on the level of activity or inactivity the individual. Elderly, retired, or others staying mostly at home, people reading or studying in a quiet environment, and people in involved in vibration sensitive activities are example of people potentially annoyed by vibration at very low levels. To these and other sensitive individuals even vibrations at the threshold of perception can be annoying.

Frequently, low-level traffic vibrations can cause irritating secondary vibration, such as a slight rattling of windows, doors or stacked dishes. The rattling sound can give rise exaggerated vibration complaints, even though there is very little risk of actual structural damage. In high noise environments, which are more prevalent where groundborne vibration approaches perceptible levels, this rattling phenomenon may also be produced by loud airborne environmental noise causing induced vibration in exterior doors and windows.

---

[1] Caltrans Technical Advisory, Transportation Related Earthborne Vibrations, TAV-02-01-R9601, Page 6

VIBRATION MEASUREMENT RESULTS

Measurements of the vibration impact due to vehicular traffic on Doherty Drive at residences adjacent to the 'S' curve segment of the roadway were conducted between May 7 and 9, 2002. Vibration levels produced by passing traffic (particularly trucks) where measured both at ground level and on a portion of the homes at three residences, 690 Riviera Circle, 76 Via La Brisa, and 71 Riviera Circle. Municon Consultants previously measured groundborne vibration levels before and after the repaving of Doherty Drive at these residences.

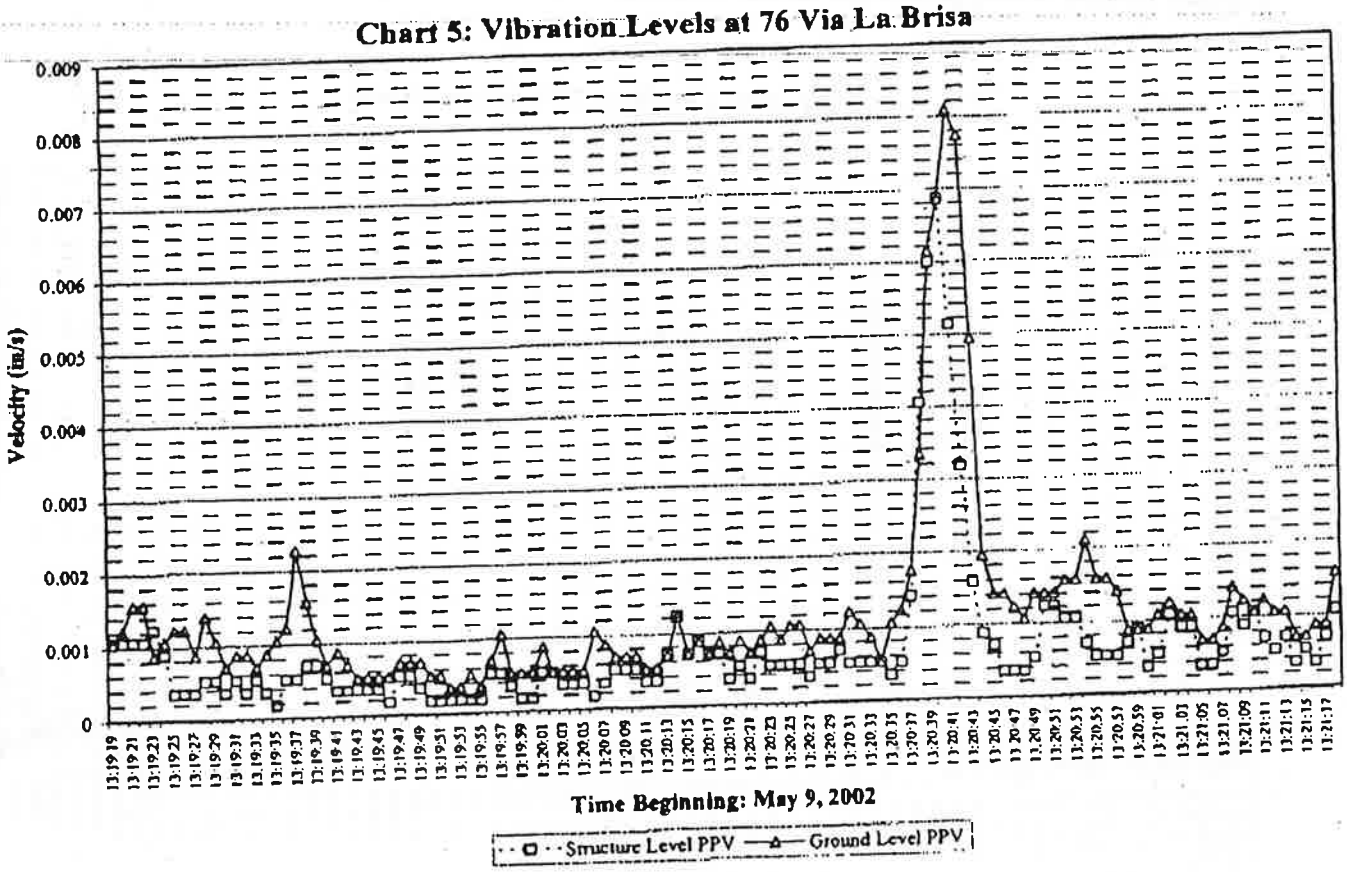
The instrumentation used to conduct the vibration measurements was a Larson Davis Laboratories Human Vibration Meter model 100 (HVM100) equipped with a seismic grade, low noise accelerometer (PCB, Model 393B31, 10 V/g). This system is capable of measuring accurately very low vibration levels (down to 1 μg). To enable continuous overnight un-manned measurements at 690 and 71 Riviera Circle, the vibration meter was setup to measure both peak particle velocity (PPV) levels and 10-second RMS velocity levels. For the short-term vibration measurements at 76 Via La Brisa the RMS averaging time was changed to 1-second.

The ground level accelerometer was firmly affixed to concrete walkways at each of the measurement locations. At 76 Via La Brisa, and 71 Riviera Circle the structure level accelerometer was firmly affixed to exterior decking within 1 foot of the deck the home structure connection. At 690 Riviera Circle the structure level accelerometer was firmly affixed to the ledge of a window seat. Because vibration levels produced by surface traffic are typically most dominant in the vertical axis, vibration levels were monitored in this direction only. For reference we would expect ground vibration levels in the other two perpendicular axes (longitudinal and transverse directions), to be less significant. On the following pages we discuss the results of these measurements:

76 Via La Brisa

Short-term manned spot vibration measurements were made at 76 Via La Brisa on the afternoon of May 9th, 2002 during individual truck and bus passbys. The results of these measurements show that passing trucks, which produced sound levels of between 68 and 77 dBA at the long-term measurement location, generated maximum exterior groundborne PPV vibration levels of 0.006 in./sec. and maximum PPV vibration levels on the home's structure of 0.005 in./sec. Figure 2, below shows the PPV vibration signature of an individual large truck passing at 1:10 p.m. During the 24-hour noise measurement made at this residence only two traffic events producing noise levels exceeding 75 dBA occurred. Because of this and the results at the other two locations we would expect that no vibration levels at ground level or the structure would reach readily perceptible levels on this property.

Chart 5: Vibration Levels at 76 Via La Brisa



Summary and Conclusions:

The maximum PPV levels measured at each of the residences are compared to the maximum levels previously measured by Municon before and after Doherty Drive was repaved in the table, below:

Address	I&R Groundborne	Municon Groundborne After repaving	I&R Structureborne
690 Riviera Circle	0.031 in./sec.	n/a	0.027 in./sec.
76 Via La Brisa	0.006 in./sec.	0.03 in./sec.	0.005 in./sec.
71 Riviera Circle	0.038 in./sec.	0.06 in./sec.	0.031 in./sec.

Based on the results of both our and Municon's vibration data, we can conclude that vibration levels at ground level produced by heavy trucks passing on Doherty Drive are just above the threshold of perception and well below a level which is typically considered to be readily perceptible. The Structureborne vibration measurements show that in all cases there is some damping of exterior groundborne vibration within the homes. Therefore, vibration for trucks passing on Doherty Drive would not be considered perceptible would not result in any structural damage to homes of typical construction quality.

Based on our observations during the vibration study and experience with similar situations we would conclude that any complaints from residents in this area of excessive vibration are a result of airborne noise from passing vehicles on Doherty drive causing induced vibration doors, windows or lightweight or loosely affixed items at the homes. This sort of acoustic induced vibration can produce irritating secondary vibration and rattles, which may be mistaken for structural vibration.

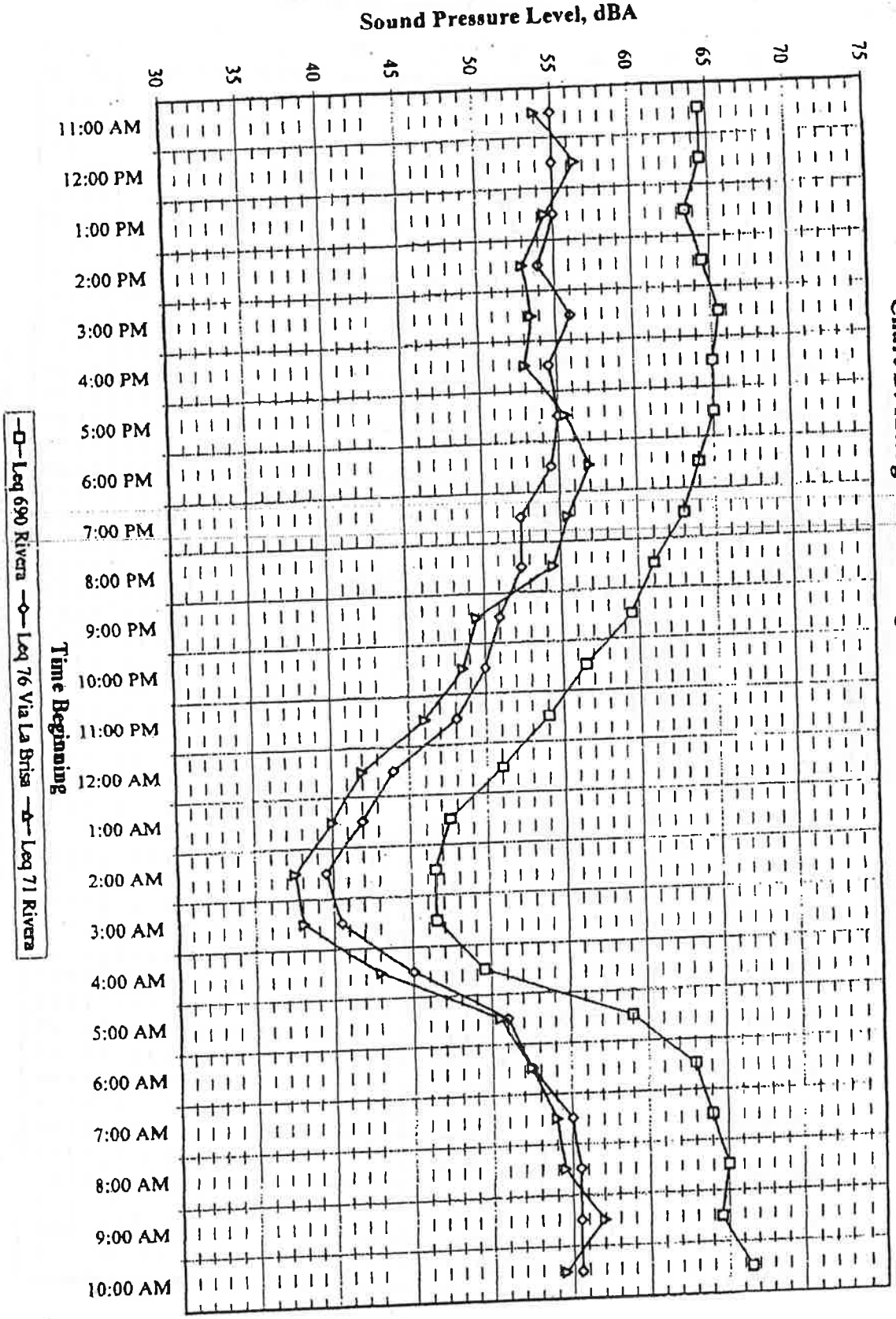


Chart B: Intergrated Average Environmental Noise Levels

Chart D1: L01 Environmental Noise Levels

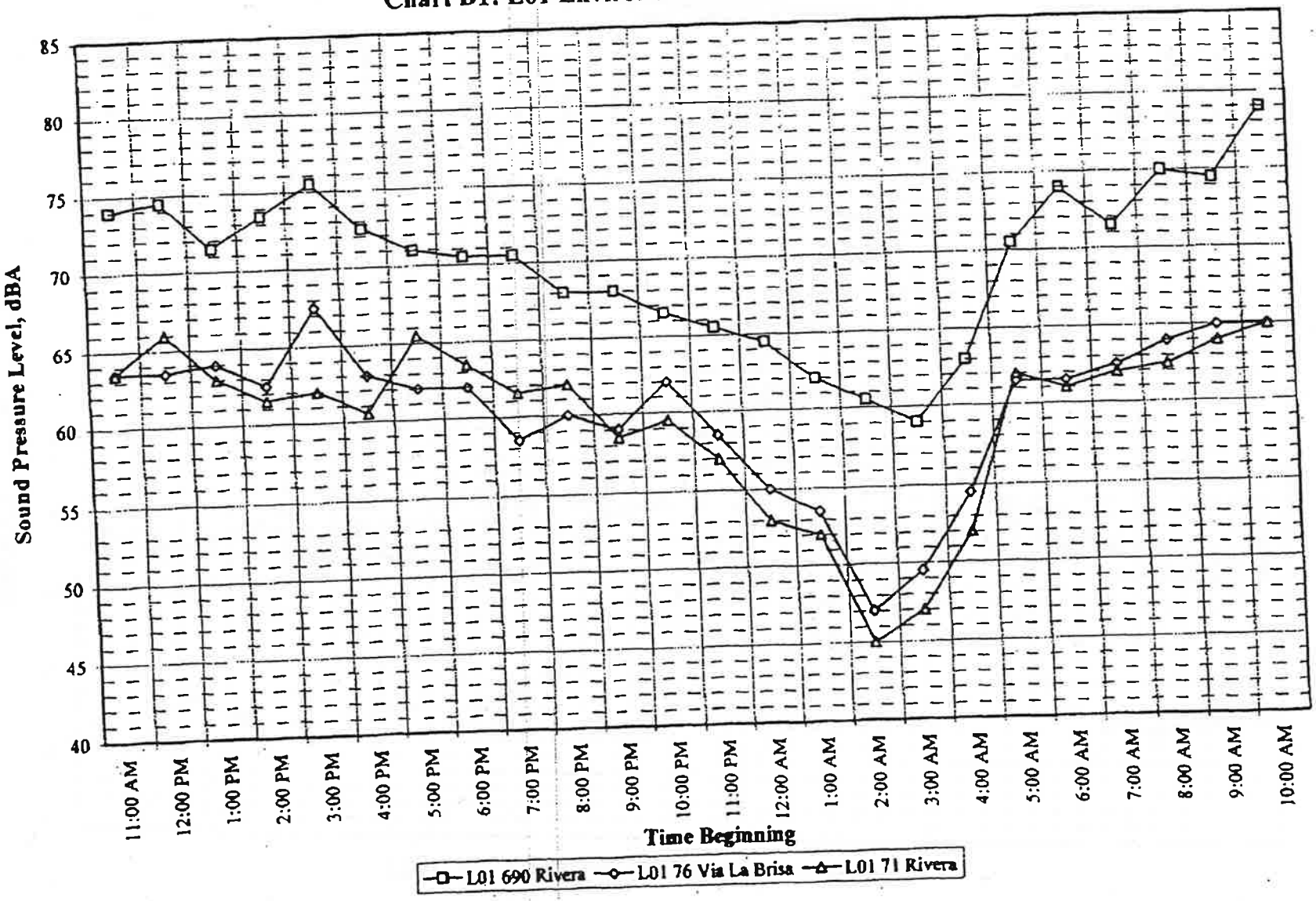
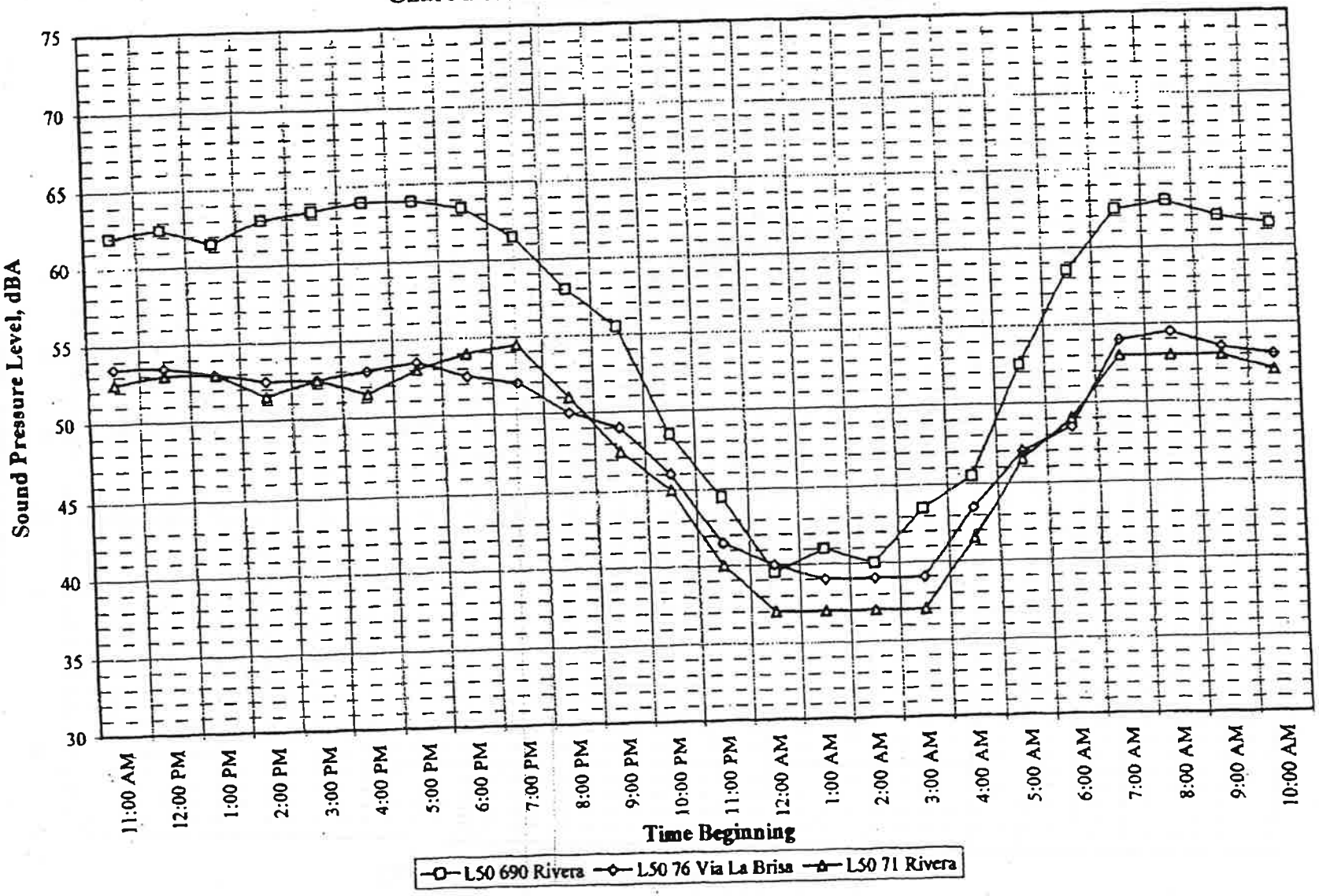


Chart D3: L50 Environmental Noise Levels



76 VIA LA BRISA
VIBRATION MEASUREMENTS
@ DECK STRUCTURE & GROUND

APPENDIX H-3

DRAFT HEALTH-BASED RISK ASSESSMENT FOR NIVEN NURSERY, LARKSPUR CALIFORNIA (FEBRUARY 2002)

DRAFT

HEALTH-BASED RISK ASSESSMENT FOR NIVEN NURSERY LARKSPUR, CALIFORNIA

Prepared for:

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Prepared by:

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February 5, 2002
03-8015A

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ACRONYMS

ABS	Absorption Factor
AF	Adherence Factor
AST	Aboveground Storage Tank
AT	Averaging Time
atm-m^3/mole	Atmosphere-cubic meter per mole
bgs	below ground surface
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
BR	Breathing Rate
BW	Body Weight
Cal/EPA	California Environmental Protection Agency
CFR	Code of Federal Regulations
cm^2	Square centimeter
COPC	Chemical of Potential Concern
CR	Contact Rate
CSF	Cancer Slope Factor
CSM	Conceptual Site Model
4,4'-DDD	4,4′-Dichorodiphenyldichloroethane
4,4'-DDE	4,4′-Dichorodiphenyldichloroethene
4,4'-DDT	4,4′-Dichorodiphenyltrichloroethane
DTSC	Department of Toxic Substances Control
ED	Exposure Duration
EF	Exposure Frequency
EPC	Exposure Point Concentration
EqP	Equilibrium Partitioning
ERL	Effects Range Low
HEAST	Health Effects Assessment Summary Tables
HI	Hazard Index
HRA	Health Risk Assessment
I	Intake (chemical-specific)
IEUBK	Integrated Exposure Uptake Biokinetic Model
IF	Intake Factor (pathway-specific)
IRIS	Integrated Risk Information System
kg	Kilogram
K_{ow}	Log octanol:water partition coefficent
LHP	Larkspur Housing Partners, LLC
LLC	Limited Liability Corporation
m^3/day	cubic meters per day
mg/cm^2	milligrams per square centimeter
mg/day	milligrams per day
mg/kg	milligrams per kilogram
mg/m^3	milligrams per cubic meter
mm of Hg	millimeters of mercury
MRL	Method Reporting Limit
MSL	Mean Sea Level
MTBE	Methyl tert-Butyl Ether

NA	Not Applicable
NAAQS	National Ambient Air Quality Standard
NCEA	National Center for Environmental Assessment
NCP	National Contingency Plan
ND	Not Detected
NOAA	National Oceanic and Atmospheric Administration
NOEC	No Observed Effect Concentration
NR	Not Reported
NS	Not Sampled
OEHHA	Office of Environmental Health Hazard Assessment
PCB	Polychlorinated Biphenyl
PEA	Preliminary Endangerment Assessment Guidance Manual
PM_{10}	Particulate Matter with a diameter of 10 micrometers or less
PRG	Preliminary Remediation Goal
RAEQD	Risk Assessment and Environmental Quality Division
RBC	Risk-Based Concentration
RCRA	Resource Conservation and Recovery Act
REL	Reference Exposure Level
RfC	Reference Concentration
RfD	Reference Dose
RME	Reasonable Maximum Mean
SA	Surface Area
SQB	Sediment Quality Benchmarks
SQC	Sediment Quality Criteria
TEL	Threshold Effect Level
TF	Transfer Factor
TPH	Total Petroleum Hydrocarbon
TPHCWG	Total Petroleum Hydrocarbon Criteria Working Group
TPH-diesel	Total Petroleum Hydrocarbon as Diesel
TPH-gasoline	Total Petroleum Hydrocarbon as Gasoline
TPH-residual	Total Petroleum Hydrocarbon as Residual
TRV	Toxicity Reference Value
UCL	Upper Confidence Limit
UF	Uncertainty Factor
µg/dL	micrograms per deciliter
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UST	Underground Storage Tank
VOC	Volatile Organic Compound
WET	Waste Extraction Test

Executive Summary

At the request of Larkspur Housing Partners, ENVIRON performed a human health risk assessment for the Niven Nursery Site in Larkspur, California. The purpose of the risk assessment was to determine if the site would pose any health risk to people expected to be living and working at the site under a future residential land redevelopment scenario. The risk assessment methods and assumptions used were developed or recommended by the Cal/EPA and USEPA for use when residential land use is anticipated.

Site History and Environmental Data

The soil sampling data on which the risk assessment is based was collected over the last several years and represents the site in its current condition. Based on past soil sampling results and the past use of the site for commercial flower production, the risk assessment addressed chlorinated pesticide residues, metals (which are likely derived from pesticides used in the past), and hydrocarbons from fuel tanks that were removed several years ago.

Human Health Risk Results

Based on the available soil, sediment, and groundwater sampling results and based on risk assessment assumptions and methods recommended by the Cal/EPA, ENVIRON found that while the pesticide residue levels varied somewhat across the site, the health risks attributable to pesticides and metals in surface soils at the Site do not pose a human health risk greater than the acceptable risk range of 1×10^{-6} to 1×10^{-4} used by the Cal/EPA and USEPA. More specifically, calculated cancer risks associated with the Western Nursery area, Northern Nursery area, Southern Nursery area, and Sloat Nursery are 5×10^{-5}, 2×10^{-5}, 1×10^{-5}, and 2×10^{-7}, respectively. Similarly, the Hazard Indices (HIs) calculated for each designated nursery areas are all below the target HI of 1 used by the Cal/EPA and USPEPA. It should be noted that to comply with applicable codes and to improve surface drainage surface soil is planned to be added across the site to raise the grade. The presence of clean fill would substantially decrease any potential exposure and risk to people that would be on the property in the future.

Lead residues detected in sediment samples collected from the bottom of two drainage ditches on the property exceeded levels that would be considered safe across a residential lot. Planned removal of sediment from those ditches by Larkspur Housing Partners under Cal/EPA supervision will reduce potential health risks to levels that are protective of future residents.

The low levels of hydrocarbons found in shallow groundwater near some of the old fuel tanks did not exceed the residential ground water RBCs and therefore, do not pose a health risk to future residents.

Screening Level Ecological Evaluation

A screening-level evaluation of potential ecological risk was conducted as part of the Site risk assessment to determine whether occurrence of contaminants on the Site pose a potential threat

to non-human receptors. The screening-level evaluation was performed in accordance with Cal/EPA (1996a) Part B guidance for performing an ecological risk assessment scoping study. The results of this ecological evaluation indicated the absence of significant ecological concerns and, therefore, precluded the need to perform a full ecological risk assessment as described in Cal/EPA (1996b) Part A guidance.

No "Special species", which are defined by DTSC as either California species of special concern, state and federal listed rare, threatened or endangered species, and species which are proposed or recommended for state or federal listing, are present on or near the property. However, it is possible that the Site may provide foraging habitat for small common terrestrial mammals commonly found in urban and suburban environments (e.g., raccoon, skunk, squirrel, and small rodents). Although unlikely, it is possible that these receptors could have direct contact with contaminants detected at the Site while foraging. Comparisons to screening level sediment and soil benchmarks established for ecological receptors indicate that the levels of lead and dieldrin may pose a risk to these species if they were exposed to the contamination in the limited areas of the Site where benchmark levels were exceeded. Although lead exceeded ecological sediment benchmarks in two drainage areas, it should be noted that there is little indication that either of these areas support the fish or aquatic life for which the benchmarks were developed. For soil, it should be noted that lead and dieldrin exceeded ecological soil benchmarks in individual areas that represent a fraction of the overall Site and an even smaller fraction of the total foraging areas for indigenous species. For this reason, these species would only be exposed to these chemicals for a small fraction of the total time they spend foraging. Lastly, as indicated above, surface soil will be added to the site in order to raise the grade and improve drainage. The presence of clean fill would substantially decrease any potential exposure and risk to ecological receptors that would be on the property in the future.

Conclusions

Based on soil sampling results representing the site in its current condition and based on risk assessment assumptions and methods recommended by the Cal/EPA, ENVIRON concludes that while pesticide and metal residues in surface soils vary somewhat in concentrations across the site, they do not pose human health risks above the acceptable risk range recommended by the Cal/EPA and USEPA.

Lead residues detected in soils located in two drainage ditches exceeded levels that would be considered safe across a residential lot. Planned removal of soil from those ditches by Larkspur Housing Partners under Cal/EPA supervision will reduce health risks to levels that are protective of future residents.

The results of the screening level ecological evaluation performed as part of this evaluation indicated the absence of significant ecological concerns and, therefore, precluded the need to perform a full ecological risk assessment as described in Cal/EPA (1996b) Part A guidance.

Lastly, it should be noted that to comply with applicable codes and to improve surface drainage surface soil is planned to be added across the site to raise the grade. The presence of clean fill would substantially decrease any potential exposure and risk to people and wildlife that would be on the property in the future.

1.0 INTRODUCTION

1.1 Overview

On behalf of Larkspur Housing Partners, LLC (LHP), and pursuant to Task 3 of the Voluntary Cleanup Agreement (Docket No. HSA-A99/00-135) with the Department of Toxic Substances Control (DTSC), ENVIRON has prepared the following health-based risk assessment (HRA) for the Niven Nursery property (i.e., the "Site") in Larkspur, California. The purpose of the HRA is to determine whether the compounds detected at the Site pose a risk to human health or the environment under a future residential land redevelopment scenario.

According to the United States Environmental Protection Agency (USEPA), and as summarized below, there are four basic steps in the quantitative human health risk assessment process: (1) Data Collection and Analysis, (2) Exposure Assessment, (3) Toxicity Assessment, and (4) Risk Characterization. These steps are summarized briefly as follows:

- ***Data Analysis and Identification of Chemicals of Potential Concern (COPCs)*** involves gathering and analyzing site-specific data relevant to the human health risk assessment and identifying chemicals present at the Site that will be the focus of the risk assessment process.

- ***Exposure Assessment*** involves an evaluation of the physical characteristics of the Site that are relevant to identifying the potentially exposed populations and their potential exposure pathways. This is followed by an estimation of the magnitude of actual or potential human exposures and the frequency and duration of these exposures for each identified human exposure pathway. The results of the exposure assessment are pathway-specific and receptor-specific estimates of intakes of individual chemicals.

- ***Toxicity Assessment*** examines the potential for site-related chemicals to cause adverse health effects in exposed individuals. It also describes the relationship between the magnitude of exposure and potential adverse effects (dose-response assessment). As a part of the toxicity assessment, toxicity values are identified and are then used to estimate the likelihood of adverse effects occurring in humans at different exposure levels.

- ***Risk Characterization*** combines and analyzes results of the exposure assessment and toxicity assessment in order to characterize the potential for adverse health effects to occur as a result of site-specific exposures.

The risk characterization portion of the HRA for this site was conducted by developing risk-based concentrations (RBCs) for the chemicals detected in soils, sediments, and ground water at the Site to which potential future residential populations may be exposed. The RBCs were developed using standard risk assessment techniques and regulatory assumptions recommended by the USEPA and the California Environmental Protection Agency's Department of Toxic Substances Control (DTSC). The RBCs represent the concentrations of individual chemicals in soil, sediment, and ground water that would be protective of future residential populations on the Site. A comparison of the concentrations of chemicals detected during the site investigations to the RBCs provides the basis for determining whether the chemicals present at the Site would pose a risk to future residential populations, and provides the basis for identifying areas where remediation may be warranted.

1.2 Organization of Report

The remaining sections of this report are organized in the following manner. Section 2.0 presents a description of the Site and a summary of the previous investigations conducted at the Site. Section 3.0 identifies chemicals of potential concern. Section 4.0 identifies the potentially exposed populations, the pathways through which those populations may be exposed to chemicals, and the specific exposure assumptions used in the assessment. Section 5.0 presents the dose-response data for carcinogenic effects and noncarcinogenic effects for each of the chemicals included in the risk assessment. Section 6.0 presents the risk characterization step of the assessment, including a brief discussion of the methodology used in calculating the RBCs and a comparison of the RBCs to levels of chemicals detected at the Site. A discussion of the uncertainties associated with the RBCs is also presented in this section. Section 7.0 presents a summary of a screening-level ecological risk assessment on chemicals detected in sediment samples collected at the Site. Sections 8.0 and 9.0 present the conclusions and the references associated with this evaluation, respectively. There are four appendices to this report. Appendix A presents analytical results of confirmation samples collected after the removal of underground storage tanks in 1990. Appendix B describes the methodology behind the fate and transport modeling for the volatile compounds detected at the Site. Appendix C describes the methodology used to derive oral and inhalation reference doses for individual total petroleum hydrocarbon (TPH) fractions (i.e., TPH-gasoline, TPH-diesel, and TPH-residual). Appendix D presents the records of pesticide use obtained from Marin County over the period of time for which they maintained records (i.e., back to 1998).

2.0 SITE DESCRIPTION AND HISTORY

A description of the physical setting and the geology/hydrogeology of the Site, as well as past, current, and potential future uses of the Site are presented in the following sections, as they provide the basis for identifying potentially exposed populations and exposure pathways that will be evaluated in subsequent sections of the HRA.

2.1 Site Location

The Site is located at 2 Ward Street, in Larkspur, California and encompasses approximately 16.8 acres. As shown in Figures 1 and 2, the Site is bounded to the north by Doherty Drive and Hall Middle School; to the west by a commercial shopping center; to the south by Ward Avenue, Larkspur Creek and residential houses; and to the east by Larkspur Creek and the City of Larkspur corporation yard.

2.2 Site History

For the past 78 years, the Niven family has owned and operated a commercial nursery at the Site. As described in the Harza Phase I Site Assessment and Initial Phase II Assessment (Harza 1998), in aerial photographs from 1946, which are the earliest available photographs, the Site appeared to contain several greenhouse buildings located on the west/southwest corner of the Site. The land adjacent to the northern and eastern boundaries of the property appeared to be undeveloped with inlet channels from the San Francisco Bay. Photographs from 1958 appeared to show more nursery buildings located on the northern and southern areas of the site and what appeared to be several residential buildings. No apparent significant changes were noted by Harza in photographs from 1963 through 1975. Photographs from 1980 showed two small buildings on the far northeastern site corner. The eastern third of the site was still undeveloped; however, it appeared to contain several large piles and miscellaneous debris. No significant changes appear in photographs from 1982 through 1996, and the Site was noted as being developed to its current level in the 1996 photographs. Prior to the construction of the Nursery, the Site consisted of a ranch with a house on it.

In addition to aerial photographs, Vista Information Solutions, Inc. provided Sanborn Fire Insurance Maps dated 1924, 1952, and 1953; for areas nearby the subject site. These maps indicate that the Western Pacific Railroad line formerly ran along part of the western border of the site. Complete coverage of the approximate site boundary was not available (Harza 1998).

In interviews with Harza and ENVIRON representatives, the current owner's representative, Ms. Cynthia Niven explained that the western greenhouses have been in operation the longest and that the nursery produced many different types of flowers (roses, camellias, orchids, etc.). Over the years various pesticides have been used at the site in conjunction with the nursery operation and were stored in a storage area located in each nursery complex (see Figure 2). According to Ms. Niven, pesticides were mixed in small quantities as they were being applied and were applied by backpack sprayer and pushcart type applicators. Pesticide use records obtained from Marin County are provided in Appendix D. No separate nursery records of pesticide use were available. As shown in Appendix D, the pesticides used in recent years are primarily organophosphates and metaldehyde, pesticides with short half-lives.

In addition to the greenhouses, the Ms. Niven indicated that several underground storage tanks (USTs) had been present on the Site and described where they had been located. These locations are shown in Figure 2. Ms. Niven indicated that all of the tanks were removed from the ground in about 1990, and confirmation soil sampling was conducted at that time. A magnetometer survey performed by Harza in 1998 supports the conclusion that no additional USTs were present on the property and that none remain. Currently, two aboveground storage tanks (ASTs) are located on the property. According to Ms. Niven, the tank located on the north end of the property has never been used, and the tank located on the southern end of the property has only been used for water storage (Harza 1998). Similar to the USTs, Ms. Niven indicated that metal drums were formerly located on the eastern side of the property, but had been removed in recent years for metal recycling. Lastly, Ms. Niven specified that boilers were located in each of the greenhouse areas to provide adequate heating for cultivation. Ms. Niven indicated that she was not aware of any other hazardous materials storage area other than the pesticide storage areas and former UST locations.

2.3 Site Description

The following sections present a description of physical features, as well as, current and potential future uses of the Site.

2.3.1 Geology and Hydrogeology

The Site geology and hydrogeology were described in GeoPacific's 1996 Environmental Site Assessment Report, and Harza's initial Phase II assessment. The Site is located near the center of the Coast Range geomorphic subprovince on the northwest margin of the San Francisco Bay subregion basin at the base of the surrounding hills (Harza 1998). This area is generally comprised of fine-grained sediments of the Holocene-Epoch age and estuarine clay that consists of fine to medium-grained colluvium derived from erosion of nearby hills (Harza 1998).

Based on recent investigations, shallow site soils generally consist of three to five feet of artificial fill overlaying Bay Mud to a maximum depth explored of about 10 feet below ground surface (bgs) (Harza 1998). Fill at the Site appeared to be comprised of fine-grained sand with clay and gravel and fine-grained sand mixed with organics and shell fragments (Harza 1998).

Due to the close proximity of Corte Madera Creek and San Francisco Bay, ground water at the Site is encountered at shallow depths. During the initial Phase II investigation, ground water was encountered at depths ranging from 3 to 4 feet bgs, the approximate depth of the Bay Mud interface, and quickly rose to depths just below the surface (6 inches to 1 foot bgs). Local drainage is generally to the east/southeast of the Site, with the exception of the northwest corner of the property, which drains to the north, under Doherty Drive, in a conveyance channel. Local ground water depth and gradient at the Site may fluctuate as they are influenced by tidal cycles, and ground water may move toward the nearby surface waters during ebb tides (Harza 1998). The U.S. Geologic Survey (USGS) topographic map of the San Rafael Quadrangle (1979) shows the Site

within an area developed for residential and commercial use in the City of Larkspur. The average elevation at the site is about 5 to 15 feet above mean sea level (MSL), which includes fill placed across the site (Harza 1998).

2.3.2 Current Site Use

The Site currently consists of greenhouse buildings along with several small, residential-type structures, storage/maintenance buildings, offices, and associated roadways, which are primarily located on the western, northern and southern areas of the property. Greenhouses in the western and Northern Nursery area are no longer in use, while the southern greenhouse complex of the nursery is currently operated for orchid cultivation. Since this operation requires limited quantities of pesticides, the Site is listed as a small quantity Resource Conservation and Recovery Act (RCRA) generator, which is defined as a business which generates more than 100 kilograms (kg) per month but less than 1,000 kg per month of non-acutely hazardous waste (Harza 1998). The eastern area remains undeveloped with several large fill material piles and miscellaneous debris. The northeast corner of the Site is currently used by a tenant as a retail nursery outlet, and is referred to below as the Sloat Nursery parcel. Figure 2 presents the general locations for the areas described above.

2.3.3 Potential Future Uses

LHP intends to develop the Site as single-family residential housing.

2.4 Summary of Previous Site Investigations

Since 1996, three investigations have been conducted at the Niven Nursery Site. These investigations include:

- an environmental site assessment by GeoPacific (1996);
- a Phase I Site Assessment and Initial Phase II Assessment by Harza (1998); and
- a sampling event conducted by ENSR in 2001 to further delineate the lateral and vertical extent of contamination at the site (ENSR 2001).

All of the historical data discussed in this report pertain to the Phase I Site Assessment and Initial Phase II Assessment performed at the Niven Nursery by Harza in 1998 on behalf of LHP as well as the sampling event conducted by ENSR in 2001 on behalf of LHP. The Harza investigation was designed to update and address issues identified during the GeoPacific investigation by assessing conditions or activities on or near the Site that may indicate a potential release of hazardous materials to shallow soil, surface sediments, or ground water. The ENSR 2001 investigation was performed as part of a Voluntary Cleanup Agreement with the DTSC. The purpose of this last investigation was to: 1) confirm that residual hydrocarbon contamination from the former UST/AST locations was not present; 2) confirm that surface water runoff at the Site has not affected Larkspur Creek sediments; 3) further delineate the lateral and vertical extent of lead and chlorinated pesticide contamination in the nursery areas, particularly in the Western

Nursery area; and 4) confirm the low lead and chlorinated pesticide concentrations in the areas between the greenhouses.

Soil samples collected as part of the Harza 1998 site investigation were analyzed for TPH as gasoline using USEPA Method 5030, TPH as diesel and motor oil using USEPA Method 8015M, purgeable aromatic compounds (e.g., benzene, toluene, ethylbenzene, and xylenes) using USEPA Method 8020, organochlorine pesticides using EPA 8080, and select metals (lead, arsenic, and mercury) using USEPA Method Series 6000 (Harza 1998). Ground water samples collected during the Harza 1998 investigation were analyzed for TPH as gasoline, TPH extractables (i.e., TPH-diesel and TPH-residual), BTEX constituents (i.e., benzene, toluene, ethylbenzene, and xylenes), select metals (arsenic, lead, and mercury), and chlorinated pesticides (Harza 1998).

Soil and sediment samples collected as part of the ENSR 2001 site investigation were analyzed for arsenic and lead using USEPA Method series 6000/7000 and chlorinated pesticides (sediment samples only analyzed for 4,4'-DDT) using USEPA Method 8080 (ENSR 2001). Ground water samples collected in the vicinity of former UST locations during the ENSR investigation were analyzed for TPH-gasoline, methyl tertbutyl ether (MTBE), and BTEX constituents using USEPA Method 8015M and USEPA Method 8020 (MTBE and BTEX), respectively (ENSR 2001). Additionally, to help characterize the solubility of lead detected in soil and to support disposal decisions for any excavated soil, the Waste Extraction Test (WET) was performed on a selected set of soil samples that had lead concentrations above 50 milligrams per kilogram (mg/kg). Soil and ground water sampling locations associated with the Harza 1998 and ENSR 2001 investigations are shown on Figure 2.

Based upon the known distribution of nursery-related chemicals at the Site, and the historical use information for individual portions of the Niven Nursery property described above, the Site has been divided into the following areas and media to evaluate potential risk and hazard: 1) four greenhouse/nursery areas (western, northern southern, and Sloat); 2) UST/AST areas; 3) creek and drainage areas; and 4) ground water sampling results. Based on their location within the Site, samples collected from the boiler rooms, pesticide mixing areas, the eastern property fill area, and the drum storage area have been grouped with samples collected from one of the four nursery areas for this evaluation. The locations of these areas and the ground water sampling locations are presented in Figure 2.

2.4.1 Greenhouses

At the time of the Harza and ENSR site investigations, approximately 30 greenhouse buildings, totaling approximately 240,000 square feet, were located on the western, northern, and southern areas of the Site, occupying about 6 acres. To evaluate general shallow soil quality in the greenhouses, Harza collected soil samples from depths of 6 inches and 1 foot bgs from two to three locations per greenhouse (depending on the size of the greenhouse) (Harza 1998). Soil samples from each greenhouse area were composited by the laboratory into one sample and analyzed for organochlorine pesticides and selected metals (lead, arsenic, and mercury) (Harza 1998). In addition to the greenhouse soil samples, Harza collected soil samples at depths of 1 and 5 feet bgs from ground water borings located at various areas across the Site. For this evaluation, the

analytical results for each of these borings were grouped with the analytical results from the nearest nursery area.

To more accurately delineate the lateral and vertical extent of lead and chlorinated pesticide contamination in the greenhouse areas, 18 sample borings were installed in and around the greenhouses as part of the ENSR 2001 investigation (ENSR 2001). Eight borings were installed in the Western Nursery area (samples W-1 through W-8), four borings were installed in the northern and Southern Nursery areas (samples N-1 through N-5 and S-1 through S-4, respectively), and two borings were installed in the Sloat Nursery (samples SN-1 and SN-2). In the Northern Nursery area, the sampling location designated as N-4 in Figure 2 could not be accessed due to the collapse of the greenhouse in the area (ENSR 2001). Soil samples were collected at depth intervals of approximately 0-6 inches bgs, 2-3 feet bgs, and 4-5 feet bgs from each of the new borings. Soil samples collected as part of the ENSR 2001 investigation were not composited by the laboratory (i.e., they were discrete samples).

2.4.1.1 Western Nursery Area

As discussed above, the western area greenhouses were the first buildings on the property and have been in operation the longest. Currently, these greenhouses are not used for nursery operations and consist mainly of vacant structures with miscellaneous piping and wood tables. Two buildings with concrete floors are located in the Western Nursery area. One of these buildings has been continuously used for general storage and small equipment repair. The other building housed both a storage room and a boiler room (Harza 1998).

At the time of Harza's additional site reconnaissance on October 1, 1998 and ENSR's 2001 investigation, the storage rooms inside these buildings contained maintenance supplies. The storage rooms are still used for site operations and equipment repair. The boilers on the Western Nursery area were used to provide heat to the greenhouses and are no longer in operation (Harza 1998).

In addition to the "greenhouse" samples (i.e., samples from greenhouses, boiler rooms, or pesticide mixing/storage areas), four additional samples from the Harza 1998 investigation have been included as part of the Western Nursery area due to their close proximity to the western greenhouses. One of these soil samples (W-7/1') was collected from beneath the concrete floor of the storage/maintenance building. The other three samples [GW-4/1', GW-4/5', and GW-5 (1', 5')], were collected from ground water borings as part of an evaluation to assess the general soil quality across the Site.

Based on laboratory analytical results of all soil samples collected from the Western Nursery area during the Harza 1998 and ENSR 2001 investigations (see Figure 2 for sampling locations), arsenic concentrations range from 6 to 26 mg/kg, lead concentrations range from 8.7 to 920 mg/kg, 4,4'-DDD

concentrations range from 0.017 to 0.31 mg/kg, 4,4'-DDE concentrations range from 0.013 to 0.9 mg/kg, 4,4'-DDT concentrations range from 0.017 to 10 mg/kg, and dieldrin concentrations range from 0.015 to 0.3 mg/kg. Refer to Table 1 for a summary of the analytical results.

All of the detected results associated with 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, and dieldrin were detected at depths ranging from 0 to 1 foot bgs. Lead was detected in every sample collected at depths ranging from 0 to 5 feet bgs; however, all elevated detections were detected at depths ranging from 0 to 1 foot bgs.

2.4.1.2 Northern Nursery Area

At the time of the Harza 1998 and ENSR 2001 investigations, the Northern Nursery area consisted of about 10 greenhouse structures that were no longer in use. According to site personnel, this area was formerly used for rose cultivation and production. Several rooms with concrete floors are attached on the western side of the greenhouses. These rooms were used for rose production and shipping, and still contain potting and packing materials and have two small refrigerated storage areas. These areas were no longer in operation at the time of the 1998 Harza investigation. An old boiler room, which is attached to the western side, is currently used for small equipment repair and for storage of miscellaneous equipment, and tools (Harza 1998). In addition to the boiler room, a pesticide mixing/storage area is located on the eastern side of the greenhouses. Because the boiler room and mixing area had cement slab floors, activities such as pesticide mixing in these areas was not expected to have caused soil contamination and soil samples were not collected from the soil beneath the cement in these areas.

In addition to the "greenhouse" samples (i.e., samples from greenhouses, boiler rooms, or pesticide mixing/storage areas), three additional soil samples from the Harza 1998 investigation have been included as part of the Northern Nursery area due to their close proximity to the northern greenhouses. One of these samples [DS(1', 5')] was collected from the former drum storage area located between the Northern Nursery area and the northwest drainage area. This sample is a composite of soil samples collected at 1foot and 5 feet bgs. Similarly, sample UST1 (1', 5') is a composite of soil samples collected at 1 foot and 5 feet bgs at a former UST location to the northwest of the drum storage area. The third sample [GW-2 (1', 5')], is a composite of soil samples collected at 1 foot and 5 feet bgs as part of an evaluation to assess the general soil quality across the Site.

Based on laboratory analytical results of all soil samples collected from the Northern Nursery area during the Harza 1998 and ENSR 2001 investigations, lead concentrations range from 7.2 to 200 mg/kg, 4,4'-DDD concentrations range from 0.011 to 0.4 mg/kg, 4,4'-DDE concentrations range from 0.049 to 0.98 mg/kg, 4,4'-DDT concentrations range from 0.01 to 2.2 mg/kg, and dieldrin

concentrations range from 0.01 to 0.28 mg/kg. Arsenic was only detected in one sample at a concentration of 14 mg/kg (at 1 foot bgs). Virtually all of the detected results associated with 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, and dieldrin were detected at depths ranging from 0 to 1 foot bgs. Lead was detected in every sample collected at depths ranging from 0 to 5 feet bgs; however, all elevated detections were detected at depths ranging from 0 to 2 feet bgs. Refer to Table 2 for a summary of the analytical results.

2.4.1.3 Southern Nursery Area

The Southern Nursery area is the only portion of the Site currently in use; the greenhouses located in this area are used for orchid cultivation. This area consists of about 11 greenhouse structures along with an attached concrete-floor structure that is currently used for preparation and production of orchids. Part of the concrete-floored structure is also used as an office. At the western end of the greenhouses, a small room with a concrete floor is used for the storage of small quantities of pesticides currently used as part of the ongoing orchid production. The boiler room for the Southern Nursery area is located adjacent to the pesticide mixing area and is currently used to heat the greenhouses. The boiler is fueled by natural gas (Harza 1998).

In addition to the "greenhouse" samples (i.e., samples from greenhouses, boiler rooms, or pesticide mixing/storage areas), two additional soil samples from the Harza 1998 investigation have been included as part of the Southern Nursery area due to their close proximity to the southern greenhouses. One of these samples (UST2/5') was collected at a depth of 5 feet bgs at a former UST location to the south of the boiler room and pesticide mixing area. The second sample (GW-3/5'), was collected at a depth of 5 feet bgs as part of an evaluation to assess the general soil quality across the Site.

Based on laboratory analytical results of soil samples collected from the Southern Nursery area during the Harza 1998 and ENSR 2001 investigations, lead concentrations range from 1.5 to 270 mg/kg, 4,4'-DDD concentrations range from 0.02 to 0.29 mg/kg, 4,4'-DDE concentrations range from 0.02 to 1.5 mg/kg, 4,4'-DDT concentrations range from 0.014 to 7.1 mg/kg, and dieldrin concentrations range from 0.029 to 0.61 mg/kg. Arsenic and mercury were not reported as being present above laboratory method reporting limits (MRLs) in any of the samples. Virtually all of the detected results associated with 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, and dieldrin were detected at depths ranging from 0 to 1 foot bgs. However, 4,4'-DDE and 4,4'-DDT were detected at concentrations of 0.06 mg/kg and 0.04 mg/kg, respectively, in sample S-3/4' collected at a depth of 4 feet bgs. Lead was detected in every sample collected at depths ranging from 0 to 5 feet bgs, however, virtually all elevated detections were detected at depths ranging from 0 to 1 foot bgs. Refer to Table 3 for a summary of the analytical results.

2.4.1.4 Sloat Nursery Area

As described above, a retail nursery, the Sloat Nursery, occupies buildings on the northeastern corner of the Niven Site. The buildings are leased from the Niven Company to the Sloat Nursery. This area is entirely paved.

In addition to the samples collected within the boundary of the Sloat Nursery, one additional soil sample [F-1 (1', 5', 7')] from the Harza 1998 investigation has been included as part of the general Sloat Nursery area due to its close proximity. This sample is a composite of two samples collected at depths of 1 foot 5 feet, and 7 feet from the top of the large fill pile located to the southwest of the Sloat Nursery.

Based on laboratory analytical results of soil samples collected from the Sloat Nursery area, lead concentrations range from 9.4 to 46 mg/kg. Lead was the only metal analyzed for in soil samples collected from this area of the Site. Lead was detected in every sample collected at depths ranging from 0 to 2 feet bgs. Chlorinated pesticides were not detected in any of the samples collected at the Sloat nursery. Refer to Table 4 for a summary of the analytical results.

2.4.2 Larkspur Creek, Southern Drainage Area, and Northwest Drainage Area Sediments

As shown in Figure 2, Larkspur Creek runs along the southern and eastern property boundary. As part of the Harza 1998 and ENSR 2001 investigations, several sediment samples were collected from the banks of Larkspur Creek along the southern property boundary and one sediment sample was collected from the creek/canal bordering the eastern portion of the Site. These samples were collected to evaluate potential impacts to the creek from historical water runoff from the Site (refer to Table 5). These samples were analyzed for arsenic, lead, and chlorinated pesticides. Laboratory analytical results detected lead at concentrations ranging from 13 mg/kg to 19 mg/kg. Arsenic was detected once at a concentration of 2.4 mg/kg. No chlorinated pesticides were detected. As previously discussed, there is no known use of metal-containing pesticides on the property and, thus, no reason to expect that metals from the use of such pesticides would be present in the sediments of Larkspur Creek or the two drainage ditches running into Larkspur Creek.

Sediment samples were also collected from the bottom of two drainage ditches on the property. One ditch is located in an area referred to here as the Southern Drainage Area; water flowing in this ditch during periods of runoff flows south, just to the east of the water tanks located south of the Southern Nursery Area, and then drops down into the section of Larkspur Creek that runs through the southern most section of the site. As shown in Table 5, one sediment sample (sample SS-1) was collected from this ditch during the ENSR 2001 investigation, and analyzed for arsenic, lead, and 4,4'-DDT.

Laboratory analytical results detected arsenic, lead, and 4,4'-DDT at concentrations of 3.6 mg/kg, 3,800 mg/kg, and 0.041 mg/kg, respectively.

The second drainage ditch, located in an area referred to here as the Northwest Drainage Area, drains into the cement-lined drainage ditch that also collects surface runoff from the shopping center to the west of the site and runs north off the property. As shown in Table 6, five sediment samples were collected from this ditch during the Harza 1998 and ENSR 2001 investigations, and analyzed for arsenic, lead, chlorinated pesticides, and PCBs. Laboratory analytical results detected arsenic, lead, and 4,4'-DDT at concentrations ranging from 4.1 mg/kg to 13 mg/kg, 620 mg/kg to 1,800 mg/kg, and 0.013 mg/kg to 0.22 mg/kg, respectively.

2.4.3 Former UST and Current AST Areas

As described above, Ms. Niven (the owner's representative) was able to identify the locations of the former USTs (see Figure 2). Ms. Niven has been continuously and actively engaged in the nursery business on the Site for approximately 20 years. To the best of her knowledge, she identified all UST locations and supervised their removal. In addition, a magnetometer survey conducted by Harza in 1998 did not detect any USTs. Based on to this information, we conclude that all of the former USTs have been identified and removed. As discussed in Section 2.2, one of the two existing ASTs has never been used and the other one has been used for water storage.

Ms. Niven informed ENVIRON that she was present during the tank removals and saw no evidence of hydrocarbon contamination (e.g., stained soil or presence of liquid fuel). Laboratory test results from soil samples collected at the time the tanks were removed are provided as Appendix A. The results from four sample locations indicate that there had been no leaks. Patches in the pavement and discussions with the nursery staff indicate the four samples were collected at tank locations 4, 5, 6 and adjacent to tanks 1 and 2, as marked in Figure 2. However, ENVIRON was not able to locate any written records showing the locations from which these samples were collected. We note that it has been ten years since the tanks were removed and that this amount of time would have provided substantial opportunity for microbial degradation of any hydrocarbons that may have been present when the tanks were removed. For this reason, these results were not included in this evaluation.

As part of the Harza 1998 investigation, soil samples were collected at four sampling locations (UST1, UST2, AST1, and AST2 in Figure 2) to characterize potential soil contamination at three areas of the Site that were assumed to be former locations of USTs/ASTs. As noted in Table 7, three of these samples were composites of soil samples collected at depths of 1 foot and 5 feet bgs. The other sample (UST2/5') was a discrete sample collected at a depth of 5 feet bgs. In response to a request from DTSC to provide additional confirmation that petroleum hydrocarbons from former USTs/ASTs are not present, soil samples were collected from six additional borings (T-1 through T-6)

located near former UST/AST locations at depths of 2 feet and 5 feet bgs as part of the ENSR 2001 site investigation.

Six additional soil samples [BLR/4', W-7/1', DS(1', 5'), GW-4/1', GW-4/5', and GW-5(1', 5')] collected from various locations across the Site during the 1998 Harza investigation have been evaluated with soil samples collected at former UST/AST locations, because like the samples collected at former UST/AST locations, these samples were tested for TPH and BTEX constituents.

Based on all laboratory analytical associated with the samples discussed above (refer to Table 7), TPH-gasoline, TPH-diesel, and TPH-residual were each detected once at concentrations of 1.6 mg/kg, 6 mg/kg, and 18 mg/kg, respectively. Toluene, ethylbenzene, and xylenes were detected at concentrations ranging from 0.007 mg/kg to 0.033 mg/kg, 0.006 mg/kg to 0.01 mg/kg, and 0.02 mg/kg to 0.075 mg/kg, respectively.

2.4.4 Summary of Ground Water Quality

In order to provide an evaluation of ground water quality across the site, five borings (GW-1 through GW-5) were installed using direct-push methods for collection of "grab" (i.e., unfiltered) ground water samples during the Harza investigation (Harza 1998). Ground water was not encountered in boring GW-5; therefore, no ground water samples were collected at this location. Additionally, ground water samples were collected from two on-site water wells (E-Well and W-Well) located along the southern end of the property. During the ENSR 2001 investigation, six additional "grab" ground water samples (T-1 through T-6) were collected at former UST/AST locations. Based on their location within the Site, ground water samples were analyzed for TPH as gasoline, TPH extractables (i.e., TPH-diesel and TPH-residual, BTEX constituents, select metals (arsenic, lead, and mercury), and/or organochlorine pesticides (Harza 1998). Approximate ground water sampling locations are shown in Figure 2.

As shown in Table 8, 12 ground water samples were collected during the Harza 1998 and ENSR 2001 site investigations. Based on the laboratory analytical results of these samples, lead and mercury were detected at concentrations ranging from 0.23 to 5.9 mg/L and 0.0005 to 0.0022 mg/L, respectively. TPH-gasoline was detected once at a concentration of 0.11 mg/L; TPH-diesel was detected at concentrations ranging from 0.082 to 1.6 mg/L, respectively. Benzene, toluene and xylenes were detected at concentrations ranging from 0.00056 to 0.00175 mg/L, 0.00057 to 0.0071 mg/L, and 0.0006 to 0.014 mg/L, respectively. Ethylbenzene was detected once at a concentration of 0.0021 mg/L.

3.0 SELECTION OF CHEMICALS OF POTENTIAL CONCERN

The purpose of this Section is to identify the chemicals of potential concern (COPCs) that will be evaluated in the quantitative risk assessment. The selection criteria and the final list of chemicals that will be included in the HRA are presented below. The methods used to select the chemicals to be included in the HRA are based on guidance provided by USEPA (1989).

3.1 Selection Criteria

Consistent with USEPA (1989), ENVIRON performed an evaluation of all soil, sediment and ground water sampling data collected during the Harza 1998 and ENSR 2001 site investigations discussed in Section 2. All chemicals detected at least once during these site investigations were included in the HRA.

3.2 Chemicals Included in the HRA

As described in Section 2.0, all soil, sediment and ground water samples collected during previous site investigations were analyzed for chemicals with a history of use at the Site (i.e. metals, organochlorine pesticides, TPH, BTEX, and MTBE). The following briefly summarizes those chemicals included in the HRA.

3.2.1 Metals

Arsenic, lead, and mercury were detected in one or more or the following media: soil, sediments, or ground water. Arsenic and lead were the only metals detected in soil. Similarly, only arsenic and lead were detected in the sediment samples collected. Mercury was not analyzed for in any of the sediment samples collected. In ground water, lead and mercury were the only metals detected. Consistent with the chemical selection criteria, arsenic, lead, and mercury are included in the HRA because they were detected either in soil, sediments, or ground water.

3.2.2 Chlorinated Pesticides

4,4'-DDD, 4,4'-DDE, 4,4'-DDT, chlordane, dieldrin, and endrin were each detected in at least one soil sample. In sediment samples, dieldrin and 4,4'-DDT were the only chlorinated pesticides detected. Chlorinated pesticides were not detected in five ground water samples that were analyzed for these compounds. Consistent with the selection criteria, all chlorinated pesticides detected at least once in soil, sediments, or ground water are included in the HRA.

3.2.3 Total Petroleum Hydrocarbons (TPH)

The TPH constituents detected at the Site consist of petroleum hydrocarbons in three ranges: TPH-gasoline (C_6 to C_{12}), TPH-diesel (assumed to be C_{10} to C_{23}), and TPH-residual (assumed to be C_{19} to C_{25}). TPH-gasoline, TPH-diesel and TPH-residual were

each detected in at least one of the five soil samples analyzed for TPH. In ground water, only TPH-gasoline and TPH-diesel were detected in samples analyzed for TPH. TPH constituents were not analyzed for in any of the sediment samples collected. Consistent with the chemical selection criteria, TPH-gasoline, TPH-diesel, and TPH-residual are included in the HRA.

3.2.4 BTEX Constituents and MTBE

Toluene, ethylbenzene, and xylenes were each detected in at least one of the soil samples analyzed for BTEX constituents. Benzene was not detected in any soil samples collected during the Harza 1998 or ENSR 2001 site investigations. In ground water, all BTEX constituents were detected in at least one of the ground water samples collected. All BTEX constituents are included in the HRA.

3.2.5 Summary of Chemicals Included in the HRA

Table 9 presents a summary of COPCs included in the HRA. As indicated in Table 9, the chemicals included in the HRA are as follows: arsenic, lead, mercury; chlordane; 4,4'-DDD; 4,4'-DDE; 4,4'-DDT; dieldrin; TPH (as gasoline, diesel, and residual); benzene; toluene; ethylbenzene; and xylene.

4.0 EXPOSURE ASSESSMENT

To determine whether the levels of chemicals present in soil, sediments, and ground water at the Site would pose a risk to human populations, it is necessary to identify the populations that may potentially be exposed to the chemicals present in soil and ground water to determine the pathways by which the exposures may occur. Identification of the potentially exposed populations requires an evaluation of potential future land uses of the Site.

Once the potentially exposed populations are identified, the complete exposure pathways by which the individuals may contact chemicals present in the soil and ground water must be determined. An exposure pathway is defined as "the course a chemical or pollutant takes from the source to the organism exposed" (USEPA 1988). An exposure route is "the way a chemical or pollutant enters an organism after contact" (USEPA 1988). A complete exposure pathway for chemicals on a site requires four key elements: chemical sources, migration routes (i.e., environmental transport), an exposure point for contact (i.e., soil, air or water) and human exposure routes (i.e., oral, dermal, inhalation). An exposure pathway is not complete unless all four elements are present. A conceptual site model (CSM), identifying the complete exposure pathways being evaluated in this HRA, is presented in Figure 3.

The remaining sections of this chapter identify the potentially exposed populations at the Site and describe the pathways through which these populations may be exposed to the COPCs. This chapter also presents the specific exposure assumptions that are used in the development of soil, sediment, and ground water RBCs.

4.1 Identification of Potentially Exposed Populations and Complete Exposure Pathways

Under current conditions, populations present at the Site who could be exposed to chemicals present in soil, sediments, and ground water include nursery workers and/or visitors. A separate risk assessment was not performed for nursery workers and /or visitors. Instead, a residential scenario (that is, unrestricted land use scenario) was evaluated. This is because a residential scenario generally provides the greatest potential for exposure to site COPCs, so that sites found to have acceptable risk for the residential scenario will also have acceptable risk for other uses.

This risk assessment evaluates future conditions under the assumption that the Site will be developed for residential use. Given that cleanup standards for residential use are lower than those that would be required for commercial land use or any potential off-site receptors, this HRA will concentrate on the potential future residential exposure scenario for the evaluation of future risks posed by chemicals present at the Site. Based on this scenario, the future populations exposed to Site related constituents are on-site residents, both children and adults. The exposure pathways considered in developing the RBCs for the exposed populations are identified in Table 10 and include:

- Incidental ingestion of soil and sediments;
- Dermal contact with soil and sediments;
- Inhalation of windblown soil particulates and sediments;

- Inhalation of volatile compounds migrating from soil into the indoor air of a home;
- Inhalation of volatile compounds migrating from ground water through soil and into the indoor air of a home

For this evaluation, representative concentrations (see Section 4.2) will be calculated for compounds detected at depths ranging from 0 to 1 foot bgs and 0 to 5 feet bgs. The rationale for calculating representative concentrations from 0 to 1 foot bgs is that virtually all elevated detections were present within the top 1 foot of soil indicating that the vertical extent of contamination does not extend much more than 1foot bgs. By only including samples collected from within impacted areas, the resulting representative concentration will more accurately reflect the actual level of contamination resulting from Site activities. Including samples from unimpacted soil (i.e., from depths greater than 1 foot bgs) when calculating a representative concentration will tend to underestimate the actual level of contamination resulting from Site activities. The rationale for calculating representative concentrations for soils from 0 to 5 feet bgs is the assumption that the intended future use of the Site could involve the excavation of subsurface soils and spreading the soil across the surface of the Site (e.g., during the construction of a swimming pool).

Since ground water in the vicinity of the Site is shallow (i.e., depth ranges from 0.5 feet to 4 feet bgs) and is probably in contact with estuarine/bay water, ENVIRON has assumed that ground water in the vicinity of the Site is not potable. In light of this, ingestion of and dermal contact with ground water are considered to be incomplete exposure pathways and are not included in the evaluation. At the request of Dr. Kimi Klein of the DTSC, we discussed this assumption with Dr. Ravi Arulanantham of the San Francisco Regional Water Quality Control Board. Dr. Arulanantham concurred with the assumption of incomplete exposure pathways via ingestion and dermal contact. In support of this determination, he referred us to a written order (SWRCB Order: 98-04 UST) in which another site with shallow groundwater and low levels of hydrocarbons was determined by the SWRCB to be an unlikely source of drinking water.

4.2 Exposure Points and Exposure Point Concentrations

Exposure points (also referred to as exposure areas) are defined as areas of potential human contact with a contaminated medium. They are identified on the basis of population activity patterns at a site and the relationship of these activities to the distribution of COPCs at a site. As noted in Section 2.4, the site was divided into distinct areas based on the spatial distribution of chemicals detected in soil, sediments, and ground water. These exposure areas are as follows: 1) for separate greenhouse/nursery areas (western, northern, southern and Sloat; 2) former UST/AST areas; and 3) creek and drainage areas. The locations of these areas are shown in Figure 2.

Soil, sediment, and ground water sampling results associated with the exposure areas listed above, are presented in Tables 1 through 8. In order to summarize these data and provide a single point estimate for evaluation of risks, ENVIRON calculated exposure point concentrations (EPCs) for each COPC in each exposure area. In the greenhouse areas, EPCs were calculated to be representative of soils from 0 to 1 foot bgs and from 0 to 5 feet bgs. For this HRA, the EPCs are the 95% upper confidence limits (95% UCLs) on the arithmetic mean. If a chemical was detected at the Site at least once and reported as "not detected" in a particular sample, it was

assumed that the chemical was present in that sample at a concentration of one-half the detection limit. This method of establishing representative concentrations follows Cal/EPA guidance (1992) and is consistent with estimating the reasonable maximum exposure (RME) case (USEPA 1989). However, because high variability in sampling data can result in a 95% UCL that exceeds the maximum detected concentration, the EPCs used in this evaluation were defined to be the minimum of the 95% UCL or the maximum detected concentration. Tables 1 through 8 present the summary statistics and EPCs for chemicals detected in soil, sediments, and ground water.

4.3 Estimation of Chemical Intakes

This section describes the methodology used to calculate chemical intakes for the receptors and complete exposure pathways identified at the Site. A chemical intake is the amount of chemical available at human exchange boundaries (i.e., lungs, gastrointestinal tract, and skin). An intake is estimated only when a potential exposure route is identified.

USEPA algorithms were used to estimate the chemical intakes for each route of exposure. A generic equation for calculating chemical intake is as follows:

$$I = \frac{EPC \times CR \times EF \times ED}{BW \times AT}$$

Where:

I	=	Intake; amount of chemical at the exchange boundary (mg/kg-day);
EPC	=	Exposure point concentration;
CR	=	Contact rate: the amount of contaminated medium contacted per unit time or event (e.g., ingestion rate, inhalation rate, or dermal contact rate);
EF	=	Exposure frequency (days/year);
ED	=	Exposure duration (years);
BW	=	Body weight (kilograms);
AT	=	Averaging time: the period over which exposure is averaged; for carcinogens, the averaging time is 25,550 days based on a lifetime exposure of 70 years (average life expectancy), and for noncarcinogens, the averaging time is equal to the exposure duration multiplied by the number of days in a year (365 days).

Equations for calculating route-specific intake factors for carcinogenic and noncarcinogenic compounds are presented in Tables 11 through 14. The population and route-specific intake factors used to derive the soil, sediment, and ground water RBCs used in this evaluation are presented in Table 17. For this evaluation, RBCs developed for soil are also used to evaluate potential exposures to sediments.

4.4 Exposure Assumptions

The following section presents the assumptions used to estimate exposure to the chemicals of potential concern present at the Site. The assumptions to estimate chemical intakes can be separated into three categories.

- Assumptions regarding human physiology (e.g., body weight);
- Assumptions specific to the potentially exposed population (e.g., the duration of exposure); and
- Assumptions specific to the given route of exposure (e.g., amount of soil ingested each day).

The specific exposure parameters used in this analysis to estimate exposure to the chemicals of potential concern are described below and summarized in Table 10. Specific exposure assumptions are taken, when available from the DTSC and USEPA guidance documents cited below.

4.4.1 Human Physiological Assumptions

For estimating exposure to the adult resident, standard physiological values for an average male adult were used (Cal/EPA 1992). The physiological assumptions used in this analysis include an adult body weight of 70 kg, and an adult breathing rate of 20 m^3/day (Cal/EPA 1992). The physiological assumptions for a six-year old were used to estimate exposures occurring during the childhood years. The physiological assumption for a child includes a body weight of 15 kg, and a breathing rate of 10 m^3/day (Cal/EPA 1994).

4.4.2 Population-Specific Assumptions

Assumptions regarding population-specific exposure frequency, exposure duration, and exposure averaging time were used to characterize the pathway-specific chemical intakes for the potentially exposed populations. The exposure frequency and exposure duration parameters determine the total time of exposure for the exposed population. The assumptions regarding exposure duration and exposure frequency used in this analysis are those recommended by the Cal/EPA (1992).

The averaging time selected for estimating chemical intake for a particular exposed population depends on the type of toxic effect being assessed. For carcinogens, intakes are calculated by averaging the dose received over a lifetime (i.e., 70 years, or 25,550 days). For noncarcinogens, the averaging time used was the period of exposure. The basis for the use of different averaging times for carcinogens and noncarcinogens is related to the currently held scientific opinion that the mechanisms of action for the two categories of chemicals are different.

Consistent with agency guidance, we have assumed that residential exposures occur for exposure duration of 30 years. Consistent with Cal/EPA (1992), we have assumed that the exposed individual is exposed for the first six years as a child, and the remaining 24 years as an adult. For exposures occurring via soil ingestion and the inhalation pathway (for soil and ground water), the exposure frequency is assumed to occur 350 days/year, for both the adult and the child. However, the exposure frequencies recommended by the DTSC for estimating dermal exposures are different for the adult and the child. Dermal exposures for children are assumed to occur 350 days per year, whereas dermal exposures for adults are assumed to occur only 100 days per year (Cal/EPA 1994).

4.4.3 Route-Specific Assumptions

Exposures to the residents may result from soil/sediment ingestion, dermal contact with soil/sediment, and inhalation of particulates (soils and sediments) and vapors from the soil and ground water. Assumptions used in the estimation of the population-specific RBCs for each of these three pathways are summarized below and are presented in Table 10.

4.4.3.1 Soil Ingestion

Soil ingestion is an age-dependent behavior, with young children (i.e., children under the age of six) more likely to ingest a greater quantity of soil than older children and adults (USEPA 1991). The USEPA and the Cal/EPA recommend assuming soil ingestion rates of 200 mg/day for children, and 100 mg/day for age groups greater than six years old. Because the soil ingestion rate is different for children and adults, the exposure resulting from residential soil ingestion is calculated using an age-adjusted soil ingestion factor, as recommended by the USEPA (1991). The age-adjusted soil ingestion factor takes into account the difference in daily soil ingestion rates, body weights, and exposure durations for two exposure groups: the first six years of exposure as a child, and the remaining 24 years of exposure as an adult. As previously discussed, the exposure frequency is assumed to be identical for the two exposure groups.

The assumption used in this assessment is that the gastrointestinal absorption of chemicals present in ingested soil would be the same as was observed in the animal or epidemiology studies from which the chemical-specific toxicity values were derived. It is important to note that the actual gastrointestinal absorption of many soil-bound chemicals would likely be less than 100%. The soil ingestion intake factors, for the adult and child residents are presented in Table 17.

4.4.3.2 Dermal Contact with Soil

Exposure via dermal contact results from the deposition of soil particles onto the skin and the subsequent absorption of chemicals present in the deposited soil through the skin. Using the methodology recommended by the USEPA (1992),

and the Cal/EPA (1992), dermal absorption from the soil for the residents was calculated by assuming that the surface area of the skin exposed to soil for a child and an adult includes the head, hands, forearms, and lower legs. For children ages 1 through 6, the surface area corresponding to the above body parts is 2,000 cm^2 (Cal/EPA 1992). For adults, the surface area exposed is 5,800 cm^2, as recommended by the Cal/EPA (1992). The amount of soil adhering to skin after deposition is dependent on the soil type and the body area contacting soil. For this evaluation, the default soil-to-skin adherence factor from LEADSPREAD (i.e., 0.5 mg/cm^2), a model used by DTSC to evaluate lead toxicity, was used as recommended by DTSC. Relative dermal absorption factors for the COPCs being evaluated in this HRA are presented in Table 15. The dermal contact intake factors calculated for the residents are presented in Table 17.

4.4.3.3 Inhalation of Particulates and Vapors

Individuals may be exposed to chemicals of concern in air by inhaling chemicals in the vapor phase or adsorbed to particulates. Based on the relative nonvolatile nature of inorganics and chlorinated pesticides, exposure to these compounds via inhalation of vapors is judged to be insignificant compared to exposure via inhalation of particulates. Accordingly, inhalation exposure to inorganics and chlorinated pesticides are assumed to occur from the inhalation of particulates.

The estimation of RBCs accounting for the inhalation of particulates pathway requires the determination of the quantitative relationship between chemical concentrations in the soil (mg/kg) and the concentration of respirable particulates (PM_{10}) in the air due to fugitive dust emissions. Particulate emissions are due to wind erosion and, therefore, depend on the erodibility of the surface material. For the fugitive dust inhalation pathway, we assumed that the ambient air particulates at the Site are equal to the National Ambient Air Quality Standard (NAAQS) for the annual average respirable portion of suspended particulate matter (0.050 mg/m^3 PM_{10}) and that the particulates have the same concentration of contaminants as the soil. In addition, we have assumed that 100% of the inhaled particulates come from surface soil. The soil-to-air correlation factor is therefore calculated by multiplying a unit soil concentration by the NAAQS, giving a correlation factor of 5×10^{-8} $(mg/m^3)/(mg/kg)$. The inhalation intake factors for particulates corresponding to on-site residents are presented in Table 17.

Benzene, toluene, ethylbenzene, xylenes, and TPH fractions (i.e., TPH-gasoline, TPH-diesel, and TPH-residual) have the potential to volatilize and migrate from ground water and/or soil up through the soil column, into indoor or ambient air. Based on the volatile nature of these compounds (i.e., a Henry's Law constant greater than 1×10^{-5} atmospheres-cubic meters/mole [$atm\text{-}m^3/mole$] or a vapor pressure greater than 0.001 millimeters of mercury [mm of Hg]), inhalation exposure to these compounds is assumed to occur via inhalation of vapors.

As shown in Table 14, the inhalation intake factors for vapors are calculated much the same way as that for particulates. In order to determine inhalation exposure to volatiles in air, ENVIRON has developed volatilization factors, which link the concentration of chemicals in soil and ground water to the concentrations that would be expected in indoor air. The development and modeling behind the volatilization factors used in this HRA is discussed in Appendix B.

5.0 TOXICITY ASSESSMENT

The toxicity assessment characterizes the relationship between the magnitude of exposure to a chemical and potential adverse effects. More specifically, the toxicity assessment identifies or derives toxicity values that can be used to estimate the likelihood of adverse effects occurring in humans at different exposure levels.

Chemicals are usually evaluated for their potential health effects in two categories, carcinogenic and noncarcinogenic. Different methods are used to estimate the potential for carcinogenic and noncarcinogenic health effects to occur. Some chemicals that produce carcinogenic effects may or may not also be associated with noncarcinogenic effects. Most regulatory agencies consider carcinogens to pose a risk for cancer at all exposure levels (i.e., a "no-threshold" assumption); that is, any increase in dose is associated with an increase in the probability of developing cancer. In contrast, noncarcinogens generally are thought to produce adverse health effects only when some minimum exposure level is reached (i.e., a threshold dose).

This section presents the dose-response, or toxicity values, for the chemicals of concern selected for the Site. The hierarchy of sources for the toxicity criteria used for this analysis corresponds to the State's guidelines:

1. California promulgated cancer slope factors (CSFs), summarized on Cal/EPA's Office of Environmental Health Hazard Assessment (OEHHA) website (Cal/EPA 2001a), which is periodically updated;
2. California promulgated reference exposure levels (RELs), summarized on Cal/EPA's OEHHA website (Cal/EPA 2001b), which is periodically updated:
3. CSFs, Reference Doses (RfDs), and Reference Concentrations (RfCs) developed by the USEPA listed in the Integrated Risk Information Service (IRIS) (USEPA 2001);
4. Nonpromulgated USEPA CSFs, RfDs, and RfCs listed in the USEPA Health Effects Assessment Summary Tables (HEAST) (USEPA 1997); and
5. Nonpromulgated USEPA RfDs and RfCs recommended by USEPA's National Center for Environmental Assessments (NCEA 2000).

In the absence of chemical-specific criteria from the above sources, we have used other regulatory or scientific sources. For example, toxicity values were derived by ENVIRON to represent petroleum mixtures using methodology presented by the Total Petroleum Hydrocarbon Criteria Working Group (TPHCWG). The following sections describe the methods used for the toxicity assessment of carcinogens and noncarcinogens, respectively. The toxicity values used in the development of the RBCs are presented in Table 18.

5.1 Chronic Toxicity Assessment for Carcinogenic Effects

Current health risk assessment practice for carcinogens is based on the assumption that there is no threshold dose below which carcinogenic effects do not occur. This approach has generally been adopted by regulatory agencies as a conservative practice to protect public health, and the "no-threshold" assumption has been used in the agency-derived cancer slope factors (CSFs) used

in this risk assessment. Although the magnitude of the risk declines with decreasing exposure, the risk is believed to be zero only at zero exposure.

CSFs are used to quantify the response potency of a potential carcinogen. The CSF represents the excess lifetime cancer risk due to a continuous, constant lifetime exposure to a specified level of a carcinogen. CSFs are generally reported as excess incremental cancer risk per milligram of chemical per kilogram body weight per day $(mg/kg\text{-}day)^{-1}$. The Cal/EPA (2001a) has published a listing of CSFs recommended for use in risk assessments. In accordance with Cal/EPA guidance, promulgated California toxicity criteria are given priority over USEPA or other values, except as otherwise discussed in the previous section. The toxicity information presented in this section reflects that guidance.

Specific dermal route toxicity factors have not yet been developed for any chemicals. Consistent with USEPA and Cal/EPA guidance, potential carcinogenic effects associated with dermal exposure are calculated using the oral CSF, in conjunction with exposure estimates that account for the relative absorption between the two exposure routes.

5.2 Chronic Toxicity Assessment for Noncarcinogenic Effects

The toxicity assessment for noncarcinogenic effects requires the estimation of an exposure level below which no adverse health effects in humans are expected to occur. USEPA refers to these levels as Reference Doses (RfDs) for oral exposure and Reference Concentrations (RfCs) for inhalation exposure (USEPA 1989). When available, Cal/EPA or USEPA-derived oral RfDs and inhalation RELs (CalEPA 2001b)/RfCs are used to evaluate noncarcinogenic effects. As noted above, California promulgated RELs are obtained from the OEHHA website. USEPA promulgated RfDs are obtained from the USEPA's on-line database, Integrated Risk Information System (IRIS) (USEPA 2001) or from the printed reference Health Effects Assessment Summary Tables (HEAST) (USEPA 1997). For the characterization of the potential noncarcinogenic health effects, inhalation RELs/RfCs, which Cal/EPA and USEPA generally report as concentrations in air, are converted to corresponding inhaled doses (inhalation RfDs) using USEPA-approved interim methodology (USEPA 1997).

Noncarcinogenic effects associated with dermal routes of exposure are evaluated using the oral RfDs, as recommended by USEPA (1989) and Cal/EPA (1994), in conjunction with exposure estimates that account for the relative absorption between the two exposure routes. Table 18 presents the RfDs used in this evaluation.

5.2.1 Chronic Toxicity Assessment for TPH

The TPH constituents detected at the Site consist of petroleum hydrocarbons in three carbon-chain ranges: TPH-gasoline (C6 to C12), TPH-diesel (C10 to C23), and TPH-residual (C19 to C25). In general, petroleum hydrocarbons are comprised of four major groups: alkanes, alkenes, cycloalkanes and aromatics. From a human health-risk standpoint, the main chemicals of concern are the aromatics, which have been characterized and included in this risk evaluation by the development of soil and ground water RBCs for individual aromatics (i.e., BTEX). However, many other hydrocarbon constituents exist in TPH-gasoline, TPH-diesel, and TPH-residual ranges. The toxicity of the other constituents in these ranges was addressed using an indicator/surrogate

approach as recommended by the TPHCWG (1997). The oral and inhalation RfDs derived for TPH-gasoline, TPH-diesel, and TPH-residual using the TPHCWG surrogate/indicator approach are presented in Table 18. A more detailed discussion of the TPHCWG surrogate/indicator approach is presented in Appendix C.

5.3 Lead

No agency-approved toxicity values are available for lead. Instead, the potential for human health effects from exposure to lead is typically estimated based on blood-lead concentrations. Blood-lead concentrations, expressed as micrograms of lead per deciliter of whole blood (μg/dL), are an integrated measure of internal dose that reflects exposure from site-related and background sources. Health effects of concern have been determined to be associated with childhood blood-lead concentrations at or below 10 μg/dL of whole blood (CDC 1991). The USEPA risk reduction goal for lead is to limit exposure to soil lead levels such that a typical child would have an estimated risk of no more than five percent of children exceeding a 10 μg/dL blood lead level.

Two steps were used to evaluate the potential health effects associated with exposure to lead in soil in the laundry and backyard areas: (1) the Integrated Exposure Uptake Biokinetic Model (IEUBK) model was applied using default input parameters to estimate a target lead concentration in soil corresponding to the target blood-lead level (10 μg/dL); and (2) site-specific lead concentrations were compared to the target lead concentration for soil.

Applying standard default exposure parameters, the IEUBK model predicts a target lead concentration in soil of 400 milligrams per kilogram (mg/kg) corresponding to the target blood lead level of 10 μg/dL in potentially exposed children. This is consistent with the USEPA recommended screening level (400 mg/kg) for lead in soil at residential properties (USEPA 1994) and the USEPA Region 9 PRG for lead in residential soil (USEPA 2000a).

Because children are the most sensitive subpopulation with respect to lead, the soil RBC for a residential child (400 mg/kg) is assumed to be protective of adult residential receptors. For this reason, a soil RBC for lead was not developed for adult residential receptors. Instead, the lead soil RBC for a residential child is used for a residential adult (Table 20).

Within the Human and Ecological Risk Division (HERD) of Cal/EPA, there is a preference for 250 mg/kg as a risk-based soil concentration goal for lead. This concentration is calculated using the State's LEADSPREAD model, the DTSC default exposure assumptions (excluding the exposure pathway of ingestion of homegrown produce), and using the goal of having 99% of the population below a blood lead level of 10 μg/dL.

6.0 RISK CHARACTERIZATION

This section presents the results and conclusions of the health risk evaluation under the assumption of future unrestricted land use. Typically, the results of a human health screening evaluation following Cal/EPA and USEPA guidance are presented as carcinogenic risks and noncarcinogenic hazard indices (HIs) based on screening-level (conservative) residential exposure assumptions, and the concentrations of chemicals detected on the Site. In this evaluation, we have used the recommended screening-level residential intake assumptions and equations presented in the preliminary endangerment assessment (PEA) guidance manual to calculate RBCs for chemicals detected in soil, sediment, and shallow ground water at the Site, based on a target cancer risk of 10^{-6} and a noncancer HI of 1.0. These residential RBCs are then compared to the soil, sediment, and ground water concentrations measured at the Site to determine if the Site would pose any health risk were it to be used for residential purposes. This section is divided into two subsections. The first subsection discusses the methodology used in calculating the residential RBCs. The second subsection presents a comparison of the RBCs to concentrations of the chemicals detected on-site.

6.1 Methodology

Estimating RBCs for constituents in soil and ground water requires information regarding the level of human intake of the chemical, acceptable target risk levels, and the relationship between intake of the chemical and its toxicity as a function of exposure to the chemical. The methodology used to derive the RBCs for the selected chemicals of concern is based on guidance provided in the four documents below:

- U.S. Environmental Protection Agency (USEPA). 1989. *Risk Assessment Guidance for Superfund. Volume I: Human Health Evaluation Manual (Part A). Interim Final.* Office of Emergency and Remedial Response. EPA/540/1-89/002. Washington, D.C. December.

- U.S. Environmental Protection Agency (USEPA). 1991. Risk Assessment Guidance for Superfund. Volume I: Human Health Evaluation Manual (Part B: Development of Risk-Based Preliminary Remediation Goals). Office of Emergency and Remedial Response. Publication 9285.7-01B. December.

- California Environmental Protection Agency (Cal/EPA). 1994. *Preliminary Endangerment Assessment Manual.*

- California Environmental Protection Agency (Cal/EPA). 1992. Supplemental Guidance for Human Health Multimedia Risk Assessment for Hazardous Waste Sites and Permitted Facilities. Sacramento, CA. July.

The same types of equations and assumptions used to calculate a health risk are used to calculate a RBC. One can estimate the potential risk associated with a measured concentration of chemical in soil, sediments, or ground water. Alternatively, one can calculate the concentration in soil, sediments, or ground water that would result in a given level of risk, and compare the

measured concentrations of chemicals in soil, sediments, and ground water to these RBCs. The equations below describe the relationship between estimated intake, toxicity, and risk for carcinogenic and noncarcinogenic health effects. For carcinogens, the equation used to calculate the RBCs corresponding to exposure via the soil ingestion, dermal contact, and inhalation pathway is as follows:

$$RBC_{carcinogen} = \frac{\text{Target Cancer Risk}}{(CSF_{oral})[IF_{ing} + IF_{dermal}] + (CSF_{inhal})[IF_{inhal}]}$$

Where:

CSF_{oral}	=	Oral Cancer Slope Factor, as specified by Cal/EPA (2001a), (mg chemical/kg body weight-day)$^{-1}$;
IF_{ing}	=	Route-specific intake equation for soil ingestion, (kg soil/kg-body weight-day);
IF_{derm}	=	Route-specific intake equation for dermal contact, (kg soil/kg-body weight-day);
CSF_{inhal}	=	Inhalation Cancer Slope Factor, as specified by Cal/EPA (2001a), (mg chemical/kg body weight-day)$^{-1}$;
IF_{inhal}	=	Route-specific intake equation for inhalation of particulates or vapors (kg soil/kg-body weight-day).

For noncarcinogens, the equation used to calculate RBCs due to exposure via the soil ingestion, dermal contact, and inhalation pathways is as follows:

$$RBC_{noncarcinogen} = \frac{\text{Target Hazard Index}}{\frac{IF_{ing}}{RfD_{oral}} + \frac{IF_{dermal}}{RfD_{oral}} + \frac{IF_{inhal}}{RfD_{inhal}}}$$

Where:

IF_{ing}	=	Route-specific intake equation for soil ingestion, (kg soil/kg-body weight-day);
RfD_{oral}	=	Oral Reference Dose, the toxicity value indicating the threshold amount of chemical contacted below which no adverse health effects are expected, (mg chemical/kg body weight-day);

IF_{derm}	=	Route-specific intake equation for dermal contact, (kg soil/kg-body weight-day);
IF_{inhal}	=	Route-specific intake equation for inhalation of particulates or vapors, (kg soil/kg-body weight-day);
RfD_{inhal}	=	Inhalation Reference Dose, the toxicity value indicating the threshold amount of chemical contacted below which no adverse health effects are expected, (mg chemical/kg body weight-day).

The route-specific intake factors in this report are based on the total amount of soil or ground water each receptor contacts over the specified period of exposure. For carcinogenic compounds, it represents an age-adjusted intake factor, which takes into account the different intake rates for different age groups, body weights, and exposure durations. The Intake Factor calculations and equations for each route of exposure are presented in Tables 11 through 14.

The National Contingency Plan (NCP) (40 CFR § 300) is commonly cited as the basis for target risk levels. According to the NCP, lifetime incremental cancer risks posed by a site should not exceed one in a million (1×10^{-6}) to one hundred in a million (1×10^{-4}), and noncarcinogenic chemicals should not be present at levels expected to cause adverse health effects (i.e., HI greater than 1). For noncancer health hazards, a target HI of 1 is identified. Individual chemical exposures that yield HIs of less than 1 are not expected to result in adverse noncancer health effects (USEPA 1989).

6.2 Results: Comparison of Exposure Point Data to Residential RBCs

The chronic RBCs calculated for future residential populations at the site, using the methodology presented above, are presented in Tables 19 through 23. As indicated in Tables 19 through 23, RBCs are calculated for both the protection of carcinogenic and noncarcinogenic health effects. In accordance with the agency guidelines cited at the beginning of this chapter, the estimate of chemical concentration used in this comparison is the 95% UCL of the concentrations measured in samples from the soil, ground water, or sediment. As explained in Section 4.2, the concentration estimate used to compare to the RBC is called the EPC.

As previously discussed, the Site has been divided into several sub-areas, largely reflecting historical use and potential exposure routes. As part of this risk assessment, we have developed EPCs for each of the different sub-areas within the Site. In the four greenhouse areas EPCs were developed for two depth intervals (0 – 1 foot bgs and 0 – 5 feet bgs) due to the fact that most elevated concentrations of COPCs were detected from 0 to 1 foot bgs. A comparison of EPCs within each area of the Site to the appropriate RBCs is presented below and is intended to provide a basis for determining whether any environmental management action (e.g., remediation, institutional control, etc.) might be warranted.

6.2.1 Western Nursery Area

For a potential future on-site resident, the cumulative carcinogenic risk associated with exposure to COPCs from 0 to 1 foot bgs in soil via inhalation of vapors and particulates, dermal contact, and soil ingestion is 5×10^{-5}. As illustrated in Table 24A, virtually all of

the estimated cancer risk from 0 to 1 foot bgs is attributable to arsenic (87%), dieldrin (8%), and 4,4'-DDT (5%). With the exception of these three compounds, the EPCs of all compounds detected from 0 to 1 foot bgs are well below their respective RBCs developed for the protection of future on-site residents. 4,4'-DDD and 4,4'-DDE contribute approximately 0.1% and 0.6% of the total risk, respectively. Cumulatively, the residual levels of chlorinated organochlorine pesticides detected from 0 to 1 foot bgs account for an estimated cancer risk of 6×10^{-6}, which is at the more protective end of the acceptable risk range of 1×10^{-6} to 100×10^{-6} that is recommended by the USEPA. As shown in Table 24B, the cumulative carcinogenic risk associated with exposure to COPCs detected in soil from 0 to 5 feet bgs decreases to 3×10^{-5} indicating that, in general, residual levels COPCs decrease from 1 to 5 feet bgs.

As shown in Table 1, arsenic was detected in 3 of the 7 soil samples collected from 0 to 1 foot bgs and analyzed for metals in the Western Nursery area. From 0 to 5 feet bgs, arsenic was detected in 3 of the 9 samples collected. As shown in Table 1, the 95% UCL of the mean arsenic concentration from 0 to 1 foot bgs in the Western Nursery area is 14 mg/kg. This concentration is above the cancer-based RBC of 0.35 mg/kg (Table 19) but is lower than the RBC based on the noncarcinogenic effects of arsenic (Table 20). As discussed by the USEPA in their documentation of the Region 9 Preliminary Remediation Goals (PRGs), the USEPA occasionally recommends the use of their risk-based concentration goal (i.e., PRG) of 22 mg/kg for residential land. The USEPA occasionally recommends this value because the soil PRG corresponding to a cancer risk of one in a million is well below natural background levels of arsenic in most soils. We were not able to locate published studies of arsenic background levels in Marin County.

In the discussion of the basis for the PRG recommended for residential land, the USEPA also notes that 22 mg/kg of arsenic in soil corresponds to a cancer risk within the acceptable risk range of one to one hundred in a million (USEPA 2000a). As shown in Table 20, the noncarcinogenic residential RBC for arsenic in soil used in this evaluation is 19 mg/kg. The noncancer arsenic soil RBC used in this evaluation is lower than the noncancer arsenic PRG listed by the USEPA due to our use of more conservative dermal adherence factors and particulate emission factors recommended by the Cal/EPA. As indicated in Table 10, the noncancer residential soil RBC used in this evaluation is based on a dermal adherence factor of 0.5 mg/cm^2 for both adults and children and a particulate emission factor of 5×10^{-8} kg/m^3. The USEPA Region 9 PRGs for arsenic in soil are based on adherence factors of 0.07 mg/cm^2 for adults and 0.2 mg/cm^2 for children and a particulate emission factor of 7.6×10^{-10} kg/m^3. If the less conservative USEPA dermal adherence factors and particulate emission factors had been used in this evaluation, the resulting carcinogenic and noncarcinogenic soil RBCs for arsenic would be the same as those listed in the USEPA Region 9 PRGs.

Dieldrin was detected in 5 of the 15 soil samples collected from 0 to 1 foot bgs and analyzed for chlorinated pesticides in the Western Nursery area. From 0 to 5 feet bgs, dieldrin was detected in 5 of the 32 soil samples collected. 4,4'-DDT was detected in 11 of the 15 soil samples collected from 0 to 1 feet bgs and analyzed for chlorinated pesticides in the Western Nursery area. From 0 to 5 feet bgs, 4,4'- DDT was detected in

12 of the 32 soil samples collected. As can be seen by this comparison (see Table 1), virtually all of the organochlorine pesticides were detected within the top foot of soil.

As shown in Table 24A, the total hazard index for residential exposure to COPCs detected in soils from 0 to 1 foot bgs in the Western Nursery area is 0.9. The majority of the noncancer hazard (83%) is attributable to arsenic. As shown in Table 24B, the total hazard index for residential exposure to COPCs detected in soils from 0 to 5 feet bgs decreases to 0.7.

The EPC for lead in the Western Nursery area from 0 to 1 foot bgs is 415 mg/kg, which exceeds both the USEPA Region 9 and Cal/EPA HERD noncarcinogenic RBCs which are 400 mg/kg and 250 mg/kg, respectively. However, the EPC for lead from 0 to 5 feet bgs is only 212 mg/kg.

6.2.2 Northern Nursery Area

For a potential future on-site resident, the cumulative carcinogenic risk associated with exposure to COPCs from 0 to 1 foot bgs in soil via inhalation of vapors and particulates, dermal contact, and soil ingestion in the Northern Nursery area is 2×10^{-5} (Table 25A). Virtually all of the estimated cancer risk is attributable to arsenic (74%) and dieldrin (20%). With the exception of these two compounds, the EPCs of all other compounds detected in this portion of the Site are below their respective carcinogenic soil RBCs developed for the protection of future on-site residents. 4,4'-DDD and 4,4'-DDE, and 4,4'-DDT contribute approximately 0.4%, 1.8%, and 3.3% of the total risk, respectively. Cumulatively, the organochlorine pesticides detected from 0 to 1 foot bgs contribute an estimated cancer risk of about 6×10^{-6}, a level that is near the low end of the USEPA acceptable cancer risk range of one to one hundred in a million. As shown in Table 25B, the cumulative carcinogenic risk associated with exposure to COPCs detected in soil from 0 to 5 feet bgs decreases to 1×10^{-5} indicating that, in general, residual levels COPCs decrease from 1 to 5 feet bgs.

Arsenic was detected in 1 of the 8 soil samples collected from 0 to 1 foot bgs and analyzed for metals in the Northern Nursery area. From 0 to 5 feet bgs, arsenic was detected in 1 of the 14 soil samples collected at depths ranging from 0 to 5 feet bgs. As shown in Table 2, the one detected concentration of arsenic was reported at 14 mg/kg.

Dieldrin was detected in 7 of the 12 soil samples collected from 0 to 1 foot bgs and analyzed for chlorinated pesticides in the Northern Nursery area. From 0 to 5 feet bgs, dieldrin was detected in 7 of the 22 soil samples collected. 4,4'-DDT was detected in 10 of the 12 soil samples collected from 0 to 1 foot bgs and analyzed for chlorinated pesticides in the Northern Nursery area. From 0 to 5 feet bgs, 4,4'-DDT was detected in 11 of the 22 soil samples. Consistent with observations in the Western Nursery area, the vast majority of organochlorine pesticides in the Northern Nursery area were detected in the top foot of soil.

As shown in Table 25A, the total hazard index for residential exposure to COPCs detected in soils from 0 to 1 foot bgs in the Northern Nursery area is 0.4. In addition, none of the detected compounds had an EPC that exceeded the associated noncarcinogenic residential soil RBC. Similarly, no individual detected concentration exceeded the associated noncarcinogenic residential soil RBC. As shown in Table 25B, the total hazard index for residential exposure to COPCs detected in soils from 0 to 5 feet bgs in the Northern Nursery area decreases to 0.3.

The EPC for lead in soils from 0 to 1 foot bgs in the Northern Nursery area is 90 mg/kg, which is well below both the USEPA Region 9 and Cal/EPA HERD noncarcinogenic RBCs, which are 400 mg/kg and 250 mg/kg, respectively. In addition, none of the detected lead concentrations exceeded either the USEPA Region 9 or Cal/EPA HERD noncarcinogenic RBC for lead. The EPC for lead in soils from 0 to 5 feet bgs is 52 mg/kg.

6.2.3 Southern Nursery Area

For a potential future on-site resident, the cumulative carcinogenic risk associated with exposure to COPCs in soil from 0 to 1 foot bgs via inhalation of vapors and particulates, dermal contact, and soil ingestion in the Southern Nursery area is 1×10^{-5} (Table 26A). Virtually all of the estimated cancer risk is attributable to dieldrin (79%) and 4,4'-DDT (17%). With the exception of these two compounds, the EPCs of all other compounds detected from 0 to 1 foot bgs in this portion of the Site are below their respective carcinogenic soil RBCs developed for the protection of future on-site residents. 4,4'-DDD and 4,4'-DDE contribute approximately 0.5% and 3.7% of the total risk, respectively. As shown in Table 26B, the cumulative carcinogenic risk associated with exposure to COPCs detected in soil from 0 to 5 feet bgs decreases to 6×10^{-6} indicating that, in general, residual levels COPCs decrease from 1 to 5 feet bgs.

Dieldrin was detected in 7 of the 12 soil samples collected from 0 to 1 foot bgs and analyzed for chlorinated pesticides in the Southern Nursery area. From 0 to 5 feet bgs, dieldrin was detected in 7 of the 21 soil samples collected. 4,4'-DDT was detected in 11 of the 12 soil samples collected from 0 to 1 foot bgs and analyzed for chlorinated pesticides in the Southern Nursery area. From 0 to 5 feet bgs, 4,4'- DDT was detected in 12 of the 21 soil samples collected. The EPCs developed for 4,4'-DDE from 0 to 1 foot bgs and 0 to 5 feet bgs were both below the corresponding carcinogenic residential soil RBC.

As shown in Table 26A, the total hazard index for residential exposure to COPCs detected in soils from 0 to 1 foot bgs in the Southern Nursery area is 0.2. None of the detected compounds had an EPC that exceeded the associated noncarcinogenic residential soil RBC. Similarly, no individual detected concentration exceeded the associated noncarcinogenic residential soil RBC. As shown in Table 26B, the total hazard index for residential exposure to COPCs detected in soils from 0 to 5 feet bgs in the Southern Nursery area decreases to 0.1.

The EPC for lead in the Southern Nursery area is 110 mg/kg, which is below both the USEPA Region 9 and Cal/EPA HERD noncarcinogenic RBCs, which are 400 mg/kg and 250 mg/kg, respectively. In addition, none of the detected concentrations exceeded either the USEPA Region 9 or Cal/EPA HERD noncarcinogenic RBC for lead. The EPC for lead in soils from 0 to 5 feet bgs is 70 mg/kg.

6.2.4 Sloat Nursery Area

For a potential future on-site resident, the cumulative carcinogenic risk associated with exposure to COPCs in soil from 0 to 5 feet bgs via inhalation of vapors and particulates, dermal contact, and soil ingestion in the Sloat Nursery Area is 2×10^{-7}. As indicated in Table 27B, chlordane and lead were the only compounds detected in this portion of the Site. The EPCs for each of these compounds are below their respective carcinogenic soil RBCs developed for the protection of future on-site residents. It should be noted, that chlordane was detected in a sample collected from the large fill pile located near the Sloat Nursery and not from a sample collected from within the Sloat Nursery. Additionally, no risk or hazard could be calculated for soil from 0 to 1 foot bgs because lead, which as explained above is evaluated separately, was the only compound detected within this depth range.

As shown in Table 27B, the total hazard index for residential exposure to COPCs detected in soils from 0 to 5 feet bgs in the Sloat Nursery area (i.e., 0.002) is well below the threshold value of 1. None of the detected compounds had an EPC that exceeded the associated noncarcinogenic residential soil RBC. Similarly, no individual detected concentration exceeded the associated noncarcinogenic residential soil RBC.

The EPC for lead in the Sloat Nursery area from 0 to 1 foot bgs is 46 mg/kg, which is lower than both the USEPA Region 9 and Cal/EPA HERD noncarcinogenic residential soil RBCs, which are 400 mg/kg and 250 mg/kg, respectively. Additionally, none of the detected concentrations exceeded either the USEPA Region 9 or Cal/EPA HERD noncarcinogenic soil RBC for lead. The EPC for lead in soils from 0 to 5 feet bgs decreases to 34 mg/kg.

6.2.5 Larkspur Creek and Southern Drainage Area

As discussed in Section 4.3, COPC concentrations detected in sediments were compared to RBCs developed for soil. For a potential future on-site resident, the cumulative carcinogenic risk associated with exposure to COPCs in sediments via inhalation of vapors and particulates, dermal contact, and ingestion in the Larkspur Creek area is 6×10^{-6}. As shown in Table 28, all of the estimated cancer risk is attributable to arsenic. Only arsenic had an EPC that exceeded the corresponding residential soil RBC.

Arsenic was detected in 1 of the 6 surface sediment samples collected and analyzed for arsenic, lead, and chlorinated pesticides in Larkspur Creek. As shown in Table 5, the EPC for arsenic in the creek sediment is 2.0 mg/kg, a level which exceeds the

carcinogenic residential soil RBC of 0.35 mg/kg, but which is below the noncancer RBC of 22 mg/kg occasionally used by the USEPA as a basis for environmental management at sites considered for residential land use. As shown in Table 21, it is also below background levels typically found in California soils (Dragun and Chiasson 1991 and Bradford et al. 1996).

As shown in Table 28, the total hazard index for residential exposure to COPCs detected in Larkspur Creek Area sediments is 0.1. None of the detected compounds had an EPC that exceeded the associated noncarcinogenic residential soil RBC.

The EPC for lead in Larkspur Creek sediments is 18 mg/kg, which is well below both the USEPA Region 9 and Cal/EPA HERD noncarcinogenic soil RBCs, which are 400 mg/kg, and 250 mg/kg, respectively.

Due to the fact that there is only one sample associated with the drainage ditch on the south side of the property, EPCs were not calculated for detected chemicals. Instead of comparing exposure point concentrations to soil RBCs, all detected results were screened against corresponding soil RBCs to determine if any compounds were present at levels that could pose a risk to future residential populations. As shown in Table 5, arsenic, lead and 4,4'-DDT, were detected at concentrations of 3.6 mg/kg, 3,800 mg/kg, and 0.041 mg/kg, respectively. The detected level of arsenic exceeds the carcinogenic residential soil RBC of 0.35 mg/kg, but is well below the noncancer RBC of 22 mg/kg occasionally used by the USEPA as a basis for environmental management at sites considered for residential land use. It is also within the range of background arsenic concentrations in California soils. The detected level of 4,4'-DDT is well below both the carcinogenic and noncarcinogenic soil RBCs which are 1.4 mg/kg and 31 mg/kg, respectively. The detected level of lead exceeds both the USEPA Region 9 and Cal/EPA HERD noncarcinogenic residential soil RBCs, which are 400 mg/kg and 250 mg/kg, respectively.

6.2.6 Northwest Drainage Area

For a potential future on-site resident, the cumulative carcinogenic risk associated with exposure to COPCs in sediments via inhalation of vapors and particulates, dermal contact, and ingestion in the Northwest Drainage area is 3×10^{-5}. As shown in Table 29, virtually all of the estimated cancer risk is attributable to arsenic (99.5%). 4,4'-DDT, the only other carcinogenic compound detected, contributes approximately 0.5% of the total risk. Arsenic was the only carcinogenic compound that had an exposure point concentration or an individual detected result that exceeded the corresponding carcinogenic residential soil RBC. The estimated cancer risk attributable to 4,4'-DDT is less than one in a million.

Arsenic was detected in 4 of the 5 surface sediment samples collected and analyzed for arsenic in the Northwest Drainage area. As shown in Table 6, the EPC for arsenic in the

sediment was 11 mg/kg, which exceeds the cancer-based RBC of 0.35 mg/kg, but is below the USEPA PRG of 22 mg/kg.

As shown in Table 29, the total hazard index for residential exposure to COPCs detected in Northwest Drainage area sediments is 0.6. None of the detected compounds had an exposure point concentration that exceeded the associated noncarcinogenic residential soil RBC. Similarly, no individual detected results exceeded the associated noncarcinogenic residential soil RBC.

The EPC for lead in Northwest Drainage Area sediments is 1,615 mg/kg. As shown in Table 6, lead was detected in all five samples analyzed at concentrations exceeding the both the USEPA Region 9 and Cal/EPA HERD noncarcinogenic RBCs, which are 400 mg/kg and 250 mg/kg, respectively. As part of site preparation, the sediment from these drainage ditches will be removed.

6.2.7 Former UST/AST Areas

EPCs were not calculated for soil samples collected from former UST/AST locations (or other sampling locations where samples were analyzed for TPH and BTEX constituents) due to the fact that these samples were not collected as part of sampling design intended to provide an unbiased estimate of exposure concentrations in the vicinity of the tanks, but rather were collected as confirmation samples collected from the locations from which tanks had been removed. Accordingly, chemical concentrations measured in individual samples were compared to the corresponding residential soil RBC.

As shown in Table 30, no carcinogenic compounds were detected in soil samples collected from former UST/AST locations (or other sampling locations where samples were analyzed for TPH and BTEX constituents). Thus, there is no cumulative carcinogenic risk associated with exposure to COPCs in soil via inhalation of vapors and particulates, dermal contact, and soil ingestion in former UST/AST areas. Similarly, no compounds were detected at concentrations that exceeded the associated noncarcinogenic residential soil RBC.

6.2.8 Ground Water

The purpose of this sampling was to confirm that the ground water around the old UST/AST locations was clean. EPCs were not calculated for ground water samples collected at the Site due to the fact that ground water samples were collected as confirmation samples from locations near the former tank locations. Because these samples were not collected with the intention of developing an estimate of average ground water concentrations in particular locations chemical concentrations were compared to the corresponding California Maximum Contaminant Levels (MCLs) and residential groundwater RBCs on an individual sample basis.

As shown in Tables 8 and 31, ground water samples were analyzed for arsenic, lead, mercury, TPH-gasoline, TPH-diesel, TPH-residual, methyl tert-butyl ether (MTBE), and BTEX. Of these compounds, lead, mercury and benzene were the only compounds detected at concentrations that exceeded the corresponding California MCL. Lead was detected in four out of six samples and all four detected concentrations exceeded the associated MCL of 0.015 mg/L. Mercury was detected in four out of six samples as well, but only one of the detected concentrations exceeded the associated MCL of 0.002 mg/L. Benzene was detected in five out of ten samples and two of the detected concentrations exceeded the associated MCL of 0.001 mg/L. MTBE was not detected.

Benzene was the only carcinogenic compound detected in ground water at the Site. As shown in Table 8, none of the detected benzene results exceeded the carcinogenic residential ground water RBC of 0.0051 mg/L. The highest detected values were slightly above the California MCL of 0.001 mg/L.

As shown in Table 31, none of the detected compounds were detected at concentrations that exceeded the associated noncarcinogenic residential ground water RBC.

6.3 Summary and Conclusions of the Human Health Risk Assessment

Consistent with DTSC and USEPA risk assessment guidance, we have evaluated the significance of the environmental conditions in the context of potential future residential use. Under the future residential land use scenario, we have assumed that the existing nursery would be dismantled, that the Site would be used for single-family residential dwellings, and that future residents would be exposed to COPCs in soil (via inhalation, ingestion, and dermal contact exposure pathways) and ground water (inhalation exposure pathway only) on a daily basis for a 30 year period.

6.3.1 Western Nursery Area

In the Western Nursery area, arsenic and two organochlorine pesticides (dieldrin and 4,4'-DDT) exceed the RBCs developed for future on-site residential populations. Arsenic was detected in 3 of the 7 samples collected from 0 to 1 foot bgs. The EPC for arsenic from 0 to 1 foot bgs, 14 mg/kg, exceeds the carcinogenic residential soil RBC of 0.35. Due to a lack of detection limit data associated with some of the earlier sampling events, the EPC for arsenic was calculated by assuming that the six non-detected results listed in Table 1 had detection limits of 2.5 mg/kg. A detection limit of 2.5 mg/kg was selected because it was a site-specific detection limit achieved during the 2001 ENSR investigation (see Tables 5 and 6) using USEPA Method 7060. Although the Harza 1998 data was analyzed using USEPA Method 6010, this method should have been capable of achieving a detection limit equal to, or lower than, 2.5 mg/kg for arsenic. It should be noted that if the 95% UCL were calculated using only the three detected results, the resulting EPC would be 21 mg/kg which would still be below the noncarcinogenic PRG occasionally recommended by the USEPA of 22 mg/kg.

As indicated above, dieldrin and 4,4'-DDT exceeded soil RBCs developed for future on-site residential populations. Dieldrin was detected in 5 of the 15 samples analyzed within a depth interval of 0 to 1 feet bgs. The exposure point concentration of dieldrin from 0 to 1 foot bgs, 0.11 mg/kg, exceeds the carcinogenic residential soil RBC of 0.031. The pesticide 4,4'-DDT was detected in 11 of the 15 samples analyzed within a depth interval of 0.5 to 1 feet bgs. The EPC for 4,4'-DDT from 0 to 1 foot bgs, 3.2 mg/kg, exceeds the carcinogenic residential soil RBC of 1.4. Cumulatively, residual levels of dieldrin and 4,4'-DDT from 0 to 1 foot bgs contribute an estimated cancer risk of 6×10^{-6}, a level that is near the low end of the USEPA acceptable cancer risk range of one to one-hundred in a million. From 0 to 5 feet bgs, the level of cancer risk contributed by dieldrin and 4,4'-DDT decreases to 3×10^{-6}. It should be noted, that organochlorine pesticides tend to bind tightly to soil particles (Kelsey et al. 1997). This phenomenon can substantially reduce the bioavailability of chemicals to people exposed to chemicals in soils. A reduction in the bioavailability of chemicals adsorbed to soil would reduce any health risk associated with these compounds. Since this evaluation assumes that a chemical is 100% bioavailable, the calculated risk associated with these compounds is likely overestimated. Additionally, organochlrine pesticides are aromatic compounds and as such would be subject to microbial degradation, which would decrease their concentrations in soil over time. Thus, the risk posed by these chemicals should decrease over time. As mentioned above, the EPC for lead from 0 to 1 foot bgs exceeded both the USEPA Region 9 and Cal/EPA HERD noncarcinogenic soil RBC. Four detected results exceeded the USEPA Region 9 residential soil RBC and seven detected results exceeded the Cal/EPA HERD residential soil RBCs. All four detections exceeding the USEPA Region 9 RBC occurred at depths of 0.5 to 1 foot bgs. Six of the seven detected concentrations exceeding the Cal/EPA HERD RBC occurred at depths of 0.5 to 1 foot bgs. One sample that exceeded the Cal/EPA HERD RBC was collected at a depth of 2 feet bgs.

Similar to arsenic, some detection limit information from earlier sampling events associated with organochlorine pesticides could not be obtained. However, unlike arsenic, the "ND" results associated with these compounds were not replaced with estimated detection limits because it was determined that since a relatively small number of samples were reported as "ND" when compared to the total number of samples the EPCs developed for these compounds would not be affected as significantly as the EPCs for arsenic. As noted in Table 1, "ND" results were included in the listed number of samples, but were not used to calculate the average or standard deviation. The EPCs developed for arsenic, dieldrin, and 4,4'-DDT from 0 to 5 feet bgs decreases to 11 mg/kg, 0.049 mg/kg, and 1.5 mg/kg, respectively.

6.3.2 Northern Nursery Area

In the Northern Nursery area, arsenic and dieldrin exceed the RBCs developed for future on-site residential populations. Arsenic was detected in 1 of the 8 samples analyzed at a depth interval of 0 to 1 foot bgs. The EPC for arsenic from 0 to 1 foot bgs, 5.9 mg/kg, exceeds the carcinogenic residential soil RBC of 0.35. As with the Western Nursery area, due to a lack of detection limit data associated with the 1998 Harza investigation, the EPC for arsenic was calculated by assuming that the non-detected results listed in

Table 2 had detection limits of 2.5 mg/kg. It should be noted that the only detected result for arsenic is 14 mg/kg which is still be below the noncarcinogenic residential soil RBC of 19 mg/kg. Dieldrin was detected in 7 of the 12 samples collected from 0 to 1 foot bgs. The EPC for dieldrin from 0 to 1 foot bgs, 0.14 mg/kg, exceeds the carcinogenic residential soil RBC of 0.031. Similar to arsenic, some detection limit information from earlier sampling events could not be obtained. However, for the same reasons given for the Western Nursery area, the "ND" results associated with organochlorine pesticides were not replaced with estimated detection limits. The EPCs developed for arsenic and dieldrin from 0 to 5 feet bgs decrease to 3.8 mg/kg and 0.085 mg/kg, respectively.

6.3.3 Southern Nursery Area

In the Southern Nursery area, dieldrin and 4,4'-DDT exceed the RBCs developed for future on-site residential populations. Dieldrin was detected in 7 of the 12 samples collected form 0 to 1 foot bgs. The exposure point concentration of dieldrin, 0.26 mg/kg, exceeds the carcinogenic residential soil RBC of 0.031. Similar to arsenic, some detection limit information from earlier sampling events could not be obtained. However, for the same reasons given for the Western Nursery area, the "ND" results associated with organochlorine pesticides were not replaced with estimated detection limits. 4,4'-DDT was detected in 11 of the 12 samples collected from 0 to 1 foot bgs. The exposure point concentration of 4,4'-DDT, 2.6 mg/kg, exceeds the carcinogenic residential soil RBC of 1.4. The EPCs developed for dieldrin and 4,4'-DDT from 0 to 5 feet bgs decrease to 0.14 mg/kg and 1.5 mg/kg, respectively.

6.3.4 Sloat Nursery Area

In the Sloat Nursery area, no detected chemicals had EPCs that exceeded soil RBCs developed for the protection of future on-site residential populations. Additionally, no single detected result exceeded the corresponding residential soil RBC.

6.3.5 Larkspur Creek and Southern Drainage Area Sediments

In the Larkspur Creek Area, arsenic and lead exceed the RBCs developed for future on-site residential populations. Arsenic was detected in two of the seven sediment samples analyzed. The exposure point concentration of arsenic, 2.0 mg/kg, exceeds the carcinogenic residential soil RBC of 0.35. Similar to other areas of the Site, due to a lack of detection limit data associated with earlier sampling events (i.e., samples Creek 1 and Creek 2), the EPC is only representative of the four samples that have detection limit information. As discussed in Section 6.2.6, it appears that the arsenic results associated with this area of the site are low enough to suggest that they are representative of background levels. Although no site-specific background samples are available for inorganic chemicals detected in soil, background concentrations of metals in California soils that are available in published literature (Dragun and Chiasson 1991; Bradford et al. 1996) are summarized in Table 21. As shown in Table 21, the 95% UCLs for arsenic corresponding to two studies of background levels of inorganic compounds in California soils are 8.3 mg/kg and 4.1 mg/kg, which are both higher than the calculated EPC for

arsenic in Larkspur Creek sediments (i.e., 2.0 mg/kg). Lead was detected in all six sediment samples analyzed. The exposure point concentration of lead, 18 mg/kg, is well below both the USEPA Region 9 and Cal/EPA HERD residential soil RBCs, which are 400 mg/kg and 250 mg/kg, respectively.

As discussed above, the analytical results from sample SS-1 were screened against corresponding soil RBCs. The results of this evaluation indicate that arsenic and lead were detected at levels that exceed the RBCs developed for future on-site residential populations. The detected arsenic concentration of 3.6 mg/kg exceeds the carcinogenic soil RBC of 0.35, but the arsenic level detected in this sample is lower than the 95% UCLs for arsenic corresponding to two studies of background levels of inorganic compounds in California soils which were 8.3 mg/kg and 4.1 mg/kg (see Table 21). The detected lead concentration of 3,800 mg/kg exceeds both the USEPA Region 9 and Cal/EPA HERD residential soil RBCs, which are 400 mg/kg and 250 mg/kg, respectively. As part of site preparation, the sediment from this on-site drainage ditch will be removed, eliminating exposure to any future populations.

6.3.6 Northwest Drainage Area Sediments

In the northwest Drainage Area, arsenic and lead exceed the RBCs developed for future on-site residential populations. Arsenic was detected in four of the five sediment samples analyzed. The exposure point concentration of arsenic, 11 mg/kg, exceeds the carcinogenic residential soil RBC of 0.35 by a factor of 31. Similar to other areas of the Site, due to a lack of detection limit data associated with some of the earlier sampling events (i.e., sample "NW Drainage"), the EPC for arsenic was developed using the four samples that had detected concentrations. Lead was detected in all five sediment samples analyzed. The EPC for lead, 1,615 mg/kg, exceeds both theUSEPA Region 9 and Cal/EPA HERD residential soil RBCs, which are 400 mg/kg and 250 mg/kg, respectively. As part of site preparation, the sediment from this on-site drainage ditch will be removed, eliminating exposure to any future populations.

6.3.7 Former UST/AST Areas

As indicated in Table 30, none of the chemicals detected in soil samples collected from former AST/UST locations (or other sampling locations where samples were analyzed for TPH and BTEX constituents) had detected results exceeding soil RBCs developed for the protection of future on-site residential populations.

6.3.8 Ground Water Quality

As indicated in Table 31, none of the chemicals detected in ground water samples collected at the Site exceeded the RBCs developed for the protection of future on-site residential populations.

6.4 Uncertainties

Risk assessments include several uncertainties that warrant discussion. Many of the assumptions used in this risk assessment, regarding the representativeness of the sampling data, human exposures, and chemical toxicity are conservative, follow agency guidance, and reflect a 90th or 95th percentile value, rather than a typical or average value (50th percentile value) for a given parameter. The use of conservative exposure and toxicity assumptions can introduce considerable uncertainty into the risk assessment. By using conservative exposure or toxicity estimates, the assessment can develop a significant conservative bias that may result in the development of significantly lower RBCs than are needed to be protective of human health. Some of the assumptions made in the risk assessment which contribute to the overall uncertainty in the evaluation are briefly outlined below:

- The RBCs developed correspond to the concentrations to which an individual is assumed to be exposed, and, do not account for potential clean soil cover, grass or other covering that actually would reduce exposure below levels we have assumed. Thus, the actual exposures to soils at the Site under possible future residential scenario would probably be much lower than has been estimated in this assessment.

- The transport of compounds from soil and ground water to air was simulated using the Johnson and Ettinger fate and transport models presented in the *Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites* (ASTM 1995). For this evaluation, a constant chemical concentration in subsurface soils was assumed and the depth to ground water was conservatively estimated to be 4 feet. By assuming a constant chemical concentration in subsurface soils, the model tends to over-estimate the amounts of contaminants that would migrate through the soil and into ambient or indoor air. For modeling the transport of chemicals from ground water through soil and into indoor air, the depth to ground water was conservatively assumed to be 0.5 feet bgs. By using the shallowest depth at which ground water was encountered, the model tends to overestimate the amounts of contaminants that would migrate from ground water to indoor air. Thus, the assumptions used to model the migration of chemicals from soil and ground water likely result in RBCs for VOCs (i.e., TPH fractions and BTEX) that are lower than is necessary to protect future residential populations.

- As described above, due to a lack of detection limit data associated with the Harza 1998 sampling event, the EPCs used in this evaluation are representative of detected results and samples with reported detection limits. With the exception of arsenic, results reported as "ND" were not included in the calculation of the average concentrations or standard deviations that were used to calculate EPCs. If the detection limit data for these samples had been available, the resulting average concentrations and standard deviations would have been lower, which in turn would have resulted in lower EPCs. The average concentrations would decrease due to the fact that the actual detection limits associated with results reported as "ND" appear to have been lower than the average concentrations calculated for this evaluation (minimum detected result from Harza 1998 data is lower than calculated average). In regards to standard deviation, as the number of samples increases, the associated variation of the data (i.e., standard deviation) tends to decrease. In the case of arsenic, a majority of the results were reported as "ND" leaving very few

samples with which to calculate a 95% UCL. For this reason, results reported as "ND" were assumed to have detection limits of 2.5 mg/kg for the purpose of calculating a 95% UCL. Based on professional judgment, a detection limit for arsenic in soil of 2.5 mg/kg for USEPA Method 6010 should be a conservative replacement value. However, depending on soil conditions at the Site, the actual detection limit for arsenic is probably lower, but may actually be higher. Thus, the risk and hazard associated with arsenic have probably been overestimated in this evaluation, but it is also possible that they have been underestimated.

- One factor not taken into account is the bioavailability of chemicals in soil. Recent studies have shown that certain organic chemicals, particularly highly lipophilic compounds (e.g., chlordane, dieldrin, endrin, 4,4'-DDD, 4,4'-DDE, 4,4'-DDT); tend to be tightly bound to soil (Kelsey et al. 1997). This phenomenon can substantially reduce the bioavailability of chemicals to people exposed to chemicals in soils. A reduction in the bioavailability of the chemicals adsorbed to soil would reduce any health risk associated with exposure to these soils. Low bioavailability could substantially reduce estimated risks below levels calculated using the default assumption that all chemicals are 100% bioavailable.

- Adverse effects observed in animal toxicity experiments would also be observed in human (animal-to-human extrapolation) and that the toxic effect observed after exposure by one route would occur following exposure by a different route (route-to-route extrapolation).

- The use of animal data presents an uncertainty in predicting carcinogenicity in humans. While many substances are carcinogenic in one or more animal species, only a small number of substances are known to be human carcinogens, raising the possibility that not all animal carcinogens are human carcinogens and that not all human carcinogens are animal carcinogens. Similarly, humans and laboratory animals may not be equally sensitive to the carcinogenicity of specific carcinogens. To prevent underestimating carcinogenic risk, regulatory agencies generally assume that humans are at least as sensitive to carcinogens as the most sensitive animal species.

- In order to adjust for uncertainties that arise from the use of animal data, regulatory agencies often base the RfD for noncarcinogenic effects on the most sensitive animal species (i.e., the species that experiences adverse effects at the lowest dose) and adjust the dose via the use of safety or uncertainty factors. The adjustment compensates for the lack of knowledge regarding interspecies extrapolation and the possibility that humans are more sensitive than the most sensitive experimental animal species tested. The use of uncertainty factors is considered to be health protective. Second, when route-specific toxicity data were lacking, data were derived by route-to-route extrapolation, as described above, and equal absorption rates for both routes were assumed (i.e., oral to inhalation and inhalation to oral). Finally, for dermal exposure to soil, chemical-specific absorption data were generally not available. Instead, dermal absorption rates, which were based on the default assumptions provided by the Cal/EPA (1994), were assumed.

The USEPA also notes in their risk assessment guidance that the use of their standard procedures and assumptions are intended to assure that the estimated risks do not underestimate the actual risks posed by a site and that the estimated risks do not necessarily represent the actual risks experienced by people at the site. In recognition of the fact that risk assessments, such as this one, that follow agency procedures are designed to not underestimate risk, USEPA Region 9 (1989) recommends including the following statement in all risk assessments:

> *"These values are upperbound estimates of excess cancer risk potentially arising from lifetime exposure to the chemical in question. A number of assumptions have been made in the derivation of these values, many of which are likely to over-estimate exposure and toxicity. The actual incidence of cancer is likely to be lower than these estimates and may be zero."*

7.0 SCREENING-LEVEL ECOLOGICAL EVALUATION OF SITE SEDIMENTS AND SOILS

A screening-level evaluation of potential ecological risk was conducted as part of the Site risk assessment to determine whether occurrence of contaminants on the Site pose a potential threat to non-human receptors. The screening-level evaluation was performed in accordance with Cal/EPA (1996a) Part B guidance for performing an ecological risk assessment scoping study. The screening-level evaluation included a determination of the presence of potential ecological receptors, the potential for complete exposure pathways, and the potential for contaminants of concern at the Site to adversely affect wildlife receptors.

The results of this ecological evaluation indicated the absence of significant ecological concerns and, therefore, precluded the need to perform a full ecological risk assessment as described in Cal/EPA (1996b) Part A guidance.

7.1 Identification of Chemicals of Potential Ecological Concern

Chemicals of potential ecological concern (COPECs) are summarized in Table 32. Chemicals detected above laboratory analytical detection limits in at least one soil or sediment sample collected from the Niven Nursey property were included as COPECs for the screening-level ecological evaluation. In sediments from Larkspur Creek, the Southern Drainage Area, and the Northwest Drainage Area, COPECs included arsenic, lead, dieldrin, and 4,4'-DDT. In the nursery areas, COPECs in soil included arsenic, lead, dieldrin, endrin, chlordane, and 4,4'- DDD, DDE, and DDT. COPECs in soil from the former above ground and underground storage tank area on the property included TPH-gasoline, TPH-diesel, TPH-residuals, toluene, ethlybenzene, and xylenes.

7.2 Biological Characterization

A biological characterization of the Niven Nursery property was conducted, in accordance with Cal/EPA (1996a) Part B ecological risk assessment guidance, to identify the presence of wildlife habitat, if any, on the property and to determine whether wildlife inhabit or could potentially inhabit the property. Consistent with DTSC guidelines (Cal/EPA 1996a), the biological characterization area considered the property and the area located within 1 mile of the property boundary.

The biological characterization included a site walk to visually inspect the property. Electronic biological databases and published biological reports pertinent to the area were searched to aid in classification of wildlife habitat at the site and to assist in the determination of the presence, or absence, of wildlife. Databases reviewed as part of the biological characterization include the California Wildlife Habitat Relationship (CWHR) system, California Natural Diversity Database (CNDDB), Special Animals List (dated July 2001), and Fish and Game Department's Wildlife

and Habitat Data Analysis Branch (http://www.dfg.ca.gov/whdab/index.html). Biological reports pertinent to the Larkspur area were not identified in this review.

The biological characterization also included a determination of the presence, or absence, of "special species" of concern within 1 mile of the property. "Special species", according to Cal/EPA (1996b), include California species of special concern, state and federal listed rare, threatened or endangered species, and species which are proposed or recommended for state or federal listing. "Special species" were not identified at the site or within the area located within 1 mile of the Site. It is possible based on available information that opportunistic wildlife such as deer and small terrestrial mammals, which are commonly found in semi-urban areas and urban / suburban residential areas in Marin County (e.g., raccoon, skunk, squirrel, and small rodents) forage on the property.

With regard to habitat, conditions on the property were found to be representative of fully developed commercial business land use. The property is situated in an area where land use is committed to a residential area, a school, and a commercial shopping area. The property itself does not provide any habitat suitable for terrestrial or avian wildlife. The ground surface is hard pack clay soil, asphalt, or pioneer grasses and scrub vegetation. The surface vegetation throughout the property consists primarily of weed grasses. Emergent pioneer woody scrub occurs adjacent to the abandoned wooden buildings and concrete foundations and the metal framework of several abandoned greenhouses. Oak and eucalyptus trees occur along Larkspur Creek, which extends along the southern property boundary.

Larkspur Creek, which delineates the southern boundary of the property, is characterized as an intermittent stream. Water flow in the creek is typically restricted to surface runoff from the property and upstream sources during the winter rainy season (approximately 6 months from November to May). The creek is often dry at other times of the year. Similarly, the Northwest Drainage Area, which extends along the western property boundary and commercial shopping area, retains surface water during the rainy season and is dry at other times of the year. There is no evidence to indicate that Larkspur Creek or the Northwest Drainage Area support fish. It is possible that both the creek and drainage area provide foraging habitat for small terrestrial mammals commonly found in semi-urban areas and urban / suburban residential areas (e.g., raccoon, skunk, squirrel, and small rodents).

7.3 Comparison of Soil and Sediment COPECs to Ecological Screening Benchmarks

COPECs identified in soil and sediments on the Niven Property were compared to soil and sediment ecological screening benchmarks. Although there is no evidence to indicate that wildlife inhabit the property, it is possible that the Site may provide some foraging habitat for small terrestrial mammals and birds that may be indigenous to the area. If so, it is possible that indigenous small terrestrial mammals and birds may contact sediments or soil. For this reason, the mean and maximum concentrations of COPECs identified in sediment and soil were compared to available sediment and soil screening benchmarks derived for ecological receptors.

7.3.1 Comparisons to Sediment Screening Benchmarks

Table 33 presents a comparison of mean and maximum COPEC concentrations in sediments from Larkspur Creek and the Northwest Drainage Area to available sediment screening benchmarks. Benchmarks derived for screening sediments in freshwater environments were adopted from six different published sources.

Although there is little indication that Larkspur Creek or the Northwest Drainage Area support fish or other aquatic life, COPECs were compared to Effects Range-Median (ER-M) benchmarks established by Long et al. (1995) and Long and Morgan (1991). ER-Ms are among the most commonly used benchmarks to evaluate sediment quality and the potential for adverse ecological effects. ER-M benchmarks correspond to the 50th-percentile of the compilation of the toxic effects data set from combined freshwater and marine sediment toxicity testing; as such, sediment concentrations below the ER-M benchmark are unlikely to pose a risk to aquatic receptors. In a similar fashion, the proposed sediment quality criteria for dieldrin derived by USEPA (1993) and based on the equilibrium partitioning (EqP) method also is used to provide an indication of the potential for adverse effects to aquatic life.

COPECs also were compared to freshwater probable effect levels (PELs) developed by Smith et al. (1996). PELs are based on the geometric mean of 50% of impacted sediments and 85% of non-impacted samples and provide an indication on the potential for adverse effects to infaunal benthic communities; as such, PEL benchmarks represent the level above which adverse effects are expected. The use of consensus-based freshwater probable effects concentrations (PECs) derived by MacDonald et al. (2000) and Ingersoll et al. (2000) are increasingly used to provide an indication of the potential for adverse effects to both aquatic life and wildlife foraging in aquatic environments.

The results of the comparisons to available sediment benchmarks shown in Table 33 indicated that the mean and maximum concentrations of lead in sediment from the Northwest Drainage Area exceeded the associated ecological sediment screening benchmarks. Arsenic concentrations in sediment were below the different screening benchmarks. The arsenic and lead concentrations detected in Larkspur Creek did not exceed the different sediment benchmark levels.

Arsenic, lead, and 4,4'-DDT were detected in sample SS-1 collected from the Southern Drainage Area (drainage ditch located on the south side of the property above Larkspur Creek) and identified as COPECs. The detected concentration of lead (3,800 mg/kg) exceeded the associated ecological sediment screening benchmarks. The detected arsenic and 4,4'-DDT concentrations (3.6 mg/kg and 0.041 mg/kg, respectively) did not exceed any of the sediment benchmark levels.

7.3.2 Comparisons to Soil Screening Benchmarks

Currently, screening level soil benchmarks for protection of ecological receptors have not been promulgated or proposed by the state of California. Cal/EPA (1996a) Part B guidance and DTSC HERD Ecological Risk Assessment Note #4 (Cal/EPA, 2000)

recommends the use of draft USEPA (2000b) ecological soil screening values and values derived by Oak Ridge National Laboratory (Efroymson et al., 1997) for ecological screening of soil data.

If sediment samples collected from Larkspur Creek, the Southern Drainage Area, and the Northwest Drainage Area were characterized as soils in the dry season for the purposes of this screening-level ecological evaluation, the lead levels detected in the Northwest Drainage Area and the Southern Drainage Area would exceed the soil screening benchmarks shown in Table 34.

COPECs identified in soil samples collected elsewhere on the property were compared to soil screening benchmarks established by the USEPA (2000b), the State of Washington (2000), and Efroymson et al. (1997) for evaluation of ecological receptors. A soil benchmark was not available for residual total petroleum hydrocarbons (TPH-residual) in soil.

The comparisons between COPECs and soil screening benchmarks are shown in Table 34. In the northern, southern, and western nursery areas, dieldrin occurred at concentrations above Washington state benchmarks and USEPA benchmarks for birds and small mammals. In the northern and southern nursery areas, 4,4'-DDT and – DDE occurred above Washington State benchmarks. Lead in the northern nursery area exceeded Efroymson et al. (1997) benchmark for birds, but not for small mammals. In the western nursery area, the maximum lead concentration in soil exceeded the Washington State benchmark and Efroymson et al. (1997) benchmarks for birds and small mammals. The arsenic results are uncertain; maximum concentrations exceeded the Efroymson et al. (1997) benchmark for small mammals, but may be below Washington State benchmarks depending upon the speciation of arsenic in the soil.

It should be noted that on an individual basis, the nursery areas, drainage areas, and Larkspur Creek represent a fraction of the overall site and an even smaller fraction of the total foraging area that would be utilized by the indigenous species mentioned above. For this reason, these species would only be exposed to the COPECs in these areas for a fraction of the total time they spend foraging. Additionally, surface soil will be added to the site in order to raise the grade and improve drainage. The presence of clean fill would further decrease and possibly eliminate any potential exposure and risk to ecological receptors that would be on the property in the future.

7.4 Identification of Complete Exposure Pathways

Table 35 describes the conceptual site model for the Niven Nursery property screening-level ecological risk evaluation. In general, conditions throughout the Niven Nursery property do not provide habitat suitable to wildlife. It is possible that small terrestrial mammals may directly contact contaminants in soil on the property and / or in sediments in Larkspur Creek and the Northwest Drainage Area through incidental ingestion or dermal contact during foraging.

However, while incidental ingestion and dermal contact are possible routes of exposure for small terrestrial mammals to chemicals in soil and sediment during foraging activities, the contamination is not widespread

7.5 Conclusions

The results of this screening level ecological evaluation reveal little ecological concern for wildlife. "Special species", which are defined by DTSC as either California species of special concern, state and federal listed rare, threatened or endangered species, and species which are proposed or recommended for state or federal listing, do not occur on or near the property. A metal fence restricts access by wildlife to the Niven Nursery property. Additionally, the property does not provide any habitat suitable for terrestrial or avian wildlife.

However, it is possible that the Site may provide foraging habitat for small common terrestrial mammals typically found in urban and suburban environments (e.g., raccoon, skunk, squirrel, and small rodents). Even though it is unlikely that these receptors directly contact contaminants in either the creek bed or drainage areas during foraging, COPECs detected at the site were screened against sediment and soil benchmarks developed for ecological receptors.

The comparisons to screening-level sediment and soil screening benchmarks established for ecological receptors indicate a possible ecological concern for the presence of lead in the two drainage areas and for dieldrin in the western, northern, and southern nursery areas.

8.0 CONCLUSION

For this evaluation, human health risk-based screening levels and ecological screening levels were developed for all chemicals detected in Site soil and ground water in order to evaluate any potential health risks posed by these chemicals to future human and wildlife populations. The following sections present the overall conclusions of the human health risk assessment and the ecological screening evaluation.

Human Health Risk Assessment

Based on soil sampling results representing the site in its current condition and based on risk assessment assumptions and methods recommended by the Cal/EPA, ENVIRON concludes that while pesticide and metal residues in surface soils vary somewhat in concentrations across the site, they do not pose human health risks above the acceptable risk range recommended by the Cal/EPA and USEPA.

The highest concentrations are present in the Western Nursery area where calculated cancer risks are approximately 5×10^{-5}. The calculated cancer risks associated with the other nursery areas are 2×10^{-5} (Northern Nursery Area), 1×10^{-5} (Southern Nursery Area), and 2×10^{-7} (Sloat Nursery Area). The HIs associated with each nursery area are all below the target HI of 1 used by the Cal/EPA and USPEPA. It should be noted that to comply with applicable codes and to improve surface drainage surface soil is planned to be added across the site to raise the grade. The presence of clean fill would substantially decrease any potential exposure and risk to people that would be on the property in the future.

Lead residues detected in sediments located in two drainage ditches exceeded levels that would be considered safe across a residential lot. Planned removal of soil from those ditches by Larkspur Housing Partners under Cal/EPA supervision will reduce health risks to levels that are protective of future residents.

The low levels of hydrocarbons found in shallow groundwater near some of the old fuel tanks did not exceed the residential ground water RBCs and therefore, do not pose a health risk to future residents.

Screening Level Ecological Evaluation

A screening-level evaluation of potential ecological risk was conducted as part of the Site risk assessment to determine whether occurrence of contaminants on the Site pose a potential threat to non-human receptors. The screening-level evaluation was performed in accordance with Cal/EPA (1996a) Part B guidance for performing an ecological risk assessment scoping study. The results of this ecological evaluation indicated the absence of significant ecological concerns and, therefore, precluded the need to perform a full ecological risk assessment as described in Cal/EPA (1996b) Part A guidance.

No "Special species", which are defined by DTSC as either California species of special concern, state and federal listed rare, threatened or endangered species, and species which are proposed or recommended for state or federal listing, are present on or near the property. However, it is possible that the Site may provide foraging habitat for small common terrestrial mammals commonly found in urban and suburban environments (e.g., raccoon, skunk, squirrel, and small rodents). Although unlikely, it is possible that these receptors could have direct contact with contaminants detected at the Site while foraging. Comparisons to screening level sediment and soil benchmarks established for ecological receptors indicate that the levels of lead and dieldrin may pose a risk to these species if they were exposed to the contamination in the limited areas of the Site where benchmark levels were exceeded. Although lead exceeded ecological sediment benchmarks in two drainage areas, it should be noted that there is little indication that either of these areas support the fish or aquatic life for which the benchmarks were developed. For soil, it should be noted that lead and dieldrin exceeded ecological soil benchmarks in individual areas that represent a fraction of the overall Site and an even smaller fraction of the total foraging areas for indigenous species. For this reason, these species would only be exposed to these chemicals for a small fraction of the total time they spend foraging. Lastly, as indicated above, surface soil will be added to the site in order to raise the grade and improve drainage. The presence of clean fill would substantially decrease any potential exposure and risk to ecological receptors that would be on the property in the future.

9.0 REFERENCES

American Society for Heating, Refrigeration, and Air-Conditioning Engineers, Inc (ASHRAE). 1997. *1997 ASHRAE Handbook- Fundamentals.* Atlanta, GA.CDC 1991

American Society for Testing and Materials (ASTM). 1995. *Standard Guide for Risk-Base Corrective Action Applied at Petroleum Release Sites.* E1739-95. Philadelphia, PA.

Bradford, G.R., A.C. Chang, A.L. Page, D. Bakhtar, J.A. Frampton, and H. Wright. 1996. *Background Concentrations of Trace and Major Elements in California Soils.* Kearney Foundation Special Report. University of California, Division of Agriculture and Natural Resources, Kearney Foundation of Soil Science. March

California Environmental Protection Agency (Cal/EPA). 2001a. *California Cancer Potency Values.* Office of Environmental Health Hazard Assessment. March.

California Environmental Protection Agency (Cal/EPA). 2001b. *All Chronic Reference Exposure Levels Adopted by Office of Environmental Health Hazard Assessment (OEHHA).* January.

California Environmental Protection Agency (Cal/EPA). 2000. HERD Ecological Risk Assessment Note # 4. Department of Toxic Substances Control. December.

California Environmental Protection Agency (Cal/EPA). 1996a. Guidance for Ecological Risk Assessment at Hazardous Waste Sites and Permitted Facilities,. Part B: Scoping Assessment. Department of Toxics Substances Control, Human and Ecological Risk Division. July 4.

California Environmental Protection Agency (Cal/EPA). 1996b. Guidance for Ecological Risk Assessment at Hazardous Waste Sites and Permitted Facilities,. Part A: Overview. Department of Toxics Substances Control, Human and Ecological Risk Division. July 4.

California Environmental Protection Agency (Cal/EPA). 1994. *Preliminary Endangerment Assessment Manual.* Department of Toxic Substances Control (DTSC), Sacramento, California. January.

California Environmental Protection Agency (Cal/EPA). 1992. *Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities.* Department of Toxic Substances Control. Sacramento, California. July.

Centers for Disease Control (CDC). 1991. Preventing Lead Poisoning in Young Children. US Department of Health and Human Services. October.

Code of Federal Regulations (CFR). 1997. Title 40, *Environmental Protection Agency (EPA).* Part 300, *National Oil and Hazardous Substances Pollution Contingency Plan.* July 1. (40 CFR § 300)

Dragun, J., and A. Chiasson. 1991. *Elements in North American Soils.* Greenbelt, MD: Hazardous Materials Control Resources Institute.

Efroymson, R.A.., Suter, G.W., Sample, B.E., and D.S. Jones. 1997. *Preliminary Remediation Goals for Ecological Endpoints.* ES/ER/TM-162/R2. August

ENSR International (ENSR). 2001. Niven Nursery, 2 Ward Street, Larkspur, California. Soil and Groundwater Sampling and Analysis Report.

Geopacific. 1996. *Environmental Site Assessment Report, 2 Ward Street, Larkspur, California.* January.

Harza Engineering Company, Inc (Harza). 1998. *Phase I Site Assessment and Intial Phase II Assessment.* Oakland, CA. October.

Ingersoll, C. G., MacDonald, D.D., Wang, N., Crane, J.L., Field, J., Haverland, P.S., Kemble, N.E., Lindskoog, r.A., Severn, C., and D.E. Smorong. 2000. Prediction of Sediment Toxicity Using Consensus-Based Freshwater Sediment Quality Guidelines. U.S. Geological survey report to the U.S. Environmental Protection Agency. EPA 905/R-00/007. June.

Kelsey, J.W., B.D. Kottler, and M. Alexander. 1997. Selective Chemical Extractants to Predict Bioavailability of Soil-Aged Organic Chemicals. Environmental Science & Technology, 31(1): 214-217.

Long, E.R., D.D. MacDonald, S.L. Smith and F.D. Calder. 1995. *Incidence of Adverse Biological Effects Within Ranges of Chemical Concentrations in Marine and Estuarine Sediments.* Environmental Management 19(1): 81-97.

Long, E.R. and Morgan. 1991. The Potential for Biological Effects of Sediment-Sorbed Contaminants Tested in the National Status and Trends Program. NOAA Technical Memorandum NOS OMA 52.

MacDonald, D.D., Ingersoll, C.G., and T.A. Berger. 2000. Development and Evaluation of Consensus-Based Sediment Quality Guidelines for Freshwater Ecosystems. Arch. Environ. Contam. Toxicol. 39:20-31.

Metcalf & Eddy, Inc. 1993. Chemical and Physical Characteristics of Crude Oil, Gasoline, and Diesel Fuel: A comparative Study. Submitted to Western States Petroleum Association, September.

National Center for Environmental Assessment (NCEA). 2000. Cited in USEPA Region 9 Preliminary Remediation Goals (PRGs) 2000. San Francisco, CA. November 1.

Smith S.C., MacDonald D.D., Keenleyside K. A., Ingersoll C.G., and L.J. Field. 1996. *A Preliminary Evaluation of Sediment Quality Assessment Values for Freshwater Ecosystems.* J. Great Lakes Research 22(3): 624-638.

Total Petroleum Hydrocarbon Criteria Working Group Series (TPHCWGS). 1997. Volume 4, *Development of Fraction Specific Reference Dose (RfDs) and Reference Concentrations (RfCs) for Total Petroleum Hydrocarbons (TPH).* Amherst Scientific Publishers. Amherst, MA.

U.S. Environmental Protection Agency (USEPA). 2001. *Integrated Risk Information System (IRIS).* Online database maintained by the USEPA. Cincinnati, OH. March.

U.S. Environmental Protection Agency (USEPA). 2000a. *Region 9 Preliminary Remediation Goals (PRGs) 2000.* San Francisco, CA. October.

U.S. Environmental Protection Agency (USEPA). 2000b. Ecological Soil Screening Level Guidance. Draft. June.

U.S. Environmental Protection Agency (USEPA). 1997. Health Effects Assessment Summary Tables (HEAST). FY 1997 Update. EPA 540-R-97-036. Office of Solid Waste and Emergency Response. Washington, D.C. July.

U.S. Environmental Protection Agency (USEPA). 1996a. *VLEACH. A One-Dimensional Finite Difference Vadose Zone Leaching Model.* Version 2.2. Center for Subsurface Modeling Support. Ada, OK.

U.S. Environmental Protection Agency (USEPA). 1996b. ECO Update : Ecotox thresholds. Volume 3, No. 2. EPA 540/F-95/038 PB95-963324. January.

U.S. Environmental Protection Agency (USEPA). 1996c. *Superfund Chemical Data Matrix.* Washington, D.C. June.

U.S. Environmental Protection Agency (USEPA). 1996d. *Superfund Chemical Data Matrix.* Washington, D.C. June.

U.S. Environmental Protection Agency (USEPA). 1994. Memorandum on the *Clarification to the 1994 Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities.* Office of Solid Waste and Emergency Response. EPA/540/F-98/030. Washington, D.C. August.

U.S. Environmental Protection Agency (USEPA). 1993. *Sediment Quality Criteria for the Protection of Benthic Organisms: Dieldrin.* September.

U.S. Environmental Protection Agency (USEPA). 1992. *Dermal Exposure Assessment: Principles and Applications. Interim Final.* Office of Research and Development. EPA/600/8-91/011B. Washington, D.C. January.

U.S. Environmental Protection Agency (USEPA). 1991. *Risk Assessment Guidance for Superfund: Volume 1 -- Human Health Evaluation Manual (Part B, Development of Risk-based Preliminary Remediation Goals).* Washington, D.C.

U.S. Environmental Protection Agency (USEPA). 1989. *Risk Assessment Guidance for Superfund. Vol. 1, Human Health Evaluation Manual (Part A).* December.

U.S. Environmental Protection Agency (USEPA). 1988. *Superfund Exposure Assessment Manual.* EPA/540/1-88/001. Washington, D.C. April.

Washington State Department of Ecology. 2000. Toxics Cleanup Program, Table 749-2.

APPENDIX H-4

ENVIRON

POST-REMEDIATION SAFETY EVALUATION FOR NIVEN NURSERY PROPERTY

ENVIRON

May 28, 2004

MEMORANDUM

To: Steven Huang, EDAW Inc.

From: Robert Scofield, D.Env.
Mathew Horrigan

Subject: Post-Remediation Safety Evaluation for Niven Nursery Property

■ INTRODUCTION

At the request of Steven Huang of EDAW Inc., ENVIRON wrote this memo to provide support documentation for the post-remediation risk levels ENVIRON originally calculated for the Niven Nursery property located in Larkspur, California (the "Site") in 2002, which have been presented in the draft Environmental Impact Report (EIR). The purpose of the post-remediation safety evaluation was to estimate lifetime incremental cancer risks associated with the Site once soil remediation activities were completed. However, it should be noted that actual post-remediation risk levels for the Site will be calculated using post-remediation confirmation samples that will be collected as soil remediation activities are completed. The post remediation risk levels estimated by ENVIRON in 2002 were calculated using the same risk assessment methodology and exposure assumptions presented in the risk assessment report prepared by ENVIRON in 2002 ("2002 Risk Assessment") (ENVIRON 2002). Similarly, the 2002 post-remediation risk levels were based the same soil data used in the 2002 Risk Assessment with the exception of samples located in areas that were targeted for excavation as specified in Figure 3 of the Removal Action Work Plan [RAW] (ENSR 2002). The following section is the post-remediation safety evaluation text ENVRION prepared in 2002 for inclusion in the EIR. The text has been modified slightly to incorporate references to tables that summarize available soil data and the corresponding risk calculations. The table numbers correspond to the tables presented in the 2002 risk Assessment, but have been modified to reflect post-remediation conditions.

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■ POST-REMEDIATION SAFETY EVALUATION

The Remedial Action Work Plan for the Niven Site (ENSR 2002) calls for cleaning up three areas of the Site by excavating surface soil (i.e., top one foot) and taking the excavated soil to a licensed disposal facility. The three areas to be cleaned up include the Western Nursery Area, the Southern Drainage Area, and the Northwest Drainage Area. The chemicals to be addressed by the proposed remediation are arsenic, lead and DDT (and its closely related breakdown products).

The remediation approved by the Cal/EPA for the Niven Nursery Site is expected to reduce arsenic levels in the top foot of soil in the Western Nursery Area to an average of 5 mg/kg, which includes a maximum residual concentration of 13 mg/kg (see Table 1 (Post-Remediation)). These average and maximum detected concentrations are typical of concentrations present in soil in the Western US and, more specifically, in the Bay Area. (See Shacklette and Boerngen, 1984; Bradford, et al. 1996; and Scott, 1991). While the Region 9 office of the USEPA in San Francisco has calculated a Preliminary Remediation Goal (PRG) of 0.39 mg/kg for arsenic as a concentration in soil that would correspond to the most conservative lifetime incremental cancer risk of one in a million under a residential exposure scenario, they acknowledge that such a level is unrealistic as being below background concentrations in many soils. In the documentation that describes the basis and application of the PRGs, the USEPA notes that, "...EPA Region 9 has at times used the non-cancer PRG (22 mg/kg) to evaluate sites recognizing that this value tends to be above background levels yet still falls within the range of soil concentrations (0.39 to 39 mg/kg) that equates to EPA's 'acceptable' risk range of 10E-6 to 10 E-4." The average and maximum levels of arsenic expected to be present in soil after remediation of the Western Nursery area is under the level of 22 ppm that the USEPA has recommended for other residential developments and corresponds to levels that are well within the range identified above of 0.39 to 39 mg/kg that correspond to the USEPA "acceptable" risk level of one in a million to one hundred in a million (i.e., 10E-6 to 10E-4).

Following the proposed remediation, DDT levels would be reduced to levels corresponding to a lifetime incremental cancer risk of slightly under two in a million. Such a risk level is at the low end of the USEPA acceptable risk range of one in a million to one hundred in a million. As noted in the Risk Assessment prepared for the Site by ENVIRON (2002), the risk estimate is based on the assumption that DDT would be biologically available to a person assumed to ingest soil from the Site. In fact, the DDT is expected to remain tightly bound to the soil and the vast majority of the DDT would

remain attached to the soil as it passes through a person's digestive tract and would not be absorbed from the digestive tract. Accordingly, the risk to a person would be substantially lower than the two in a million and would almost certainly be less than one in a million, the most conservative endpoint of EPA's acceptable risk range. The approved cleanup would also reduce lead concentrations in the Western Nursery Area to levels below the Cal/EPA target range of 250 to 400 mg/kg, which were developed by the agency to prevent adverse health effects from lead. Post-remediation risk levels are summarized in Table 24A (Post-Remediation) and Table 24B (Post-Remediation).

The sediments in the Southern and Northwestern Drainage in which lead, arsenic and DDT had been detected would be scraped out of the existing drainage ditches and taken to a licensed disposal site. Thus, there would be no exposure to these materials after the remediation approved by the Cal/EPA has been carried out.

■ References

Bradford, et al. 1996. *Background Concentrations of Trace and Major Elements in California Soils*. Kearney Foundation Special Report, University of California Riverside, Division of Agriculture and Natural Resources. March, 1996.

ENSR Corporation. 2002. *Removal Action Work Plan, Niven Nursery, 2 Ward Street, Larkspur, California.* March. ENSR Project No. 08727-061-900.

ENVIRION. 2002. Health-Based Risk Assessment for Niven Nursery, Larkspur, California. February.

Scott, Christina. 1991. *Background Metal Concentrations in Soils in Northern Santa Clara County, California.* Thesis for Master of Science in Environmental Management at the University of San Francisco. December, 1991.

Shacklette, H.T. and J.T. Boerngen. 1984. Element Concentrations in Soil and Other Surficial Materials in the Coterminous Unites States. Geological Service Professional Paper 1270. Washington, D.C. US Government Printing Office.

Table 24B (Post-Remediation)
Cancer Risk and Hazard Index for Future On-Site Residential Exposure to Soil (0 to 5 feet bgs) in the Western Nursery Area
Niven Nursery, Larkspur, CA

Chemical	Range of On-Site Concentrations (mg/kg)	EPC (mg/kg)[a]	Noncarcinogenic RBC (mg/kg)	Carcinogenic RBC (mg/kg)	EPC > lowest RBC	Future Potential Hazard Quotient[b]	Future Potential Cancer Risk[c]
Chlorinated Pesticides							
Chlordane	ND	NA	NA	NA	NA	NA	NA
4,4'-DDD	ND - 0.073	0.014	31	2.0	no	0.000	7.03E-09
4,4'-DDE	ND - 0.30	0.06	31	1.4	no	0.002	3.84E-08
4,4'-DDT	ND - 3.5	0.6	31	1.4	no	0.019	4.01E-07
Dieldrin	ND	NA	NA	NA	NA	NA	NA
Endrin	ND	NA	NA	NA	NA	NA	NA
Metals							
Arsenic	ND - 13	8.6	19	0.35	yes	0.45	2.46E-05[d]
Lead	8.7 - 350	79	400[e]	NC[f]	no	NA[g]	NC[f]
Mercury	ND	NA	NA	NA	NA	NA	NA
BTEX							
Benzene	NS	NA	NA	NA	NA	NA	NA
Toluene	NS	NA	NA	NA	NA	NA	NA
Ethylbenzene	NS	NA	NA	NA	NA	NA	NA
Xylenes	NS	NA	NA	NA	NA	NA	NA
TPH							
TPH-gasoline	NS	NA	NA	NA	NA	NA	NA
TPH-diesel	NS	NA	NA	NA	NA	NA	NA
TPH-residual	NS	NA	NA	NA	NA	NA	NA
Cumulative Hazard Index[h]						0.5	
Cumulative Cancer Risk[i]							3.E-05

Notes:
bgs = below ground surface.
ND = Not detected.
NS = Not sampled.
NA = Not applicable.
RBC = Risk-based concentration.
EPC = Exposure point concentration.
a If 95% UCL exceeds the maximum detected result, the maximum detection was used.
b The hazard quotient corresponds to the EPC of each chemical divided by the RBC.
c The estimated cancer risk = (EPC/RBC) x 10^{-6}.
d Arsenic appears to be present at background levels and, therefore, may not represent any increase in incremental lifetime cancer risk.
e USEPA soil screening level for residential Child.
f NC = Not calculated because chemical is not evaluated as a carcinogen.
g Not Analyzed. The traditional RfD approach to the evaluation of chemicals is not applied to lead because most human health effects data are based on blood lead levels, rather than external dose. For this reason, lead is evaluated independently of other chemicals.
h Cumulative Hazard Index for future residential populations corresponds to the sum of the individual Hazard Quotients.
i Cumulative Cancer Risk for future residential populations corresponds to the sum of the individual Cancer Risks.