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Draft
Environmental Impact Report

State Clearinghouse Number 2000011101

for

City in the Hills

Volume I

Michael Brandman Associates

July 25, 2000

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DRAFT
ENVIRONMENTAL IMPACT REPORT
CITY IN THE HILLS
State Clearinghouse No. 2000011101

VOLUME I

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF EXHIBITS

SECTION 1
INTRODUCTION

1.1 PURPOSE OF THE EIR

This draft environmental impact report (EIR) has been prepared in accordance with the California Environmental Quality Act (CEQA) to evaluate the potential environmental impacts associated with the development of the City in the Hills. The City of Bakersfield is the lead agency for the preparation of the EIR. This document is a program EIR and has been prepared in conformance with CEQA, California Public Resources Code Section 2100 et seq; the California CEQA guidelines (California Code of Regulation, Title 14, Section 15000 et seq.); and the rules, regulations, and procedures for implementing CEQA as adopted by the City of Bakersfield.

This draft EIR is intended to serve as an informational document for the public agency decision-makers and the general public regarding the objectives and components of the proposed project. This document will address the potentially significant adverse environmental impacts that may be associated with the planning, construction, or operation of the project, as well as identify appropriate feasible mitigation measures and alternatives that may be adopted to reduce or eliminate these impacts. This EIR considers a series of actions that are needed to achieve development of the proposed project. The actions currently being requested include approval of project components, a General Plan Land Use Element amendment, a General Plan Circulation Element amendment, a concurrent zone change, and a development agreement to vest development rights. Additional City approvals (i.e., tentative parcel, tract maps, master plans, conditional use permits, amendment to the Plan Drainage Area for the Breckenridge area, grading permits, and building permits) may be needed. In addition to the City, other public agencies (i.e., responsible and trustee agencies) will also use the information in the EIR in their decision making process as well as additional information that may be presented during the CEQA process. At this time, the California Department of Fish and Game (CDFG) is identified as a potential responsible and trustee agency for the project. A more detailed discussion of the potential project approvals is provided in Section 3.4 of this document.

This EIR is the primary reference document for the formulation and implementation of a mitigation monitoring program for the proposed project. Environmental impacts are not always mitigable to a level that is considered to be less than significant. In accordance with Section 15093(b) of the State CEQA Guidelines, if a lead agency approves a project that has significant impacts that are not substantially mitigated (i.e. significant unavoidable impacts), the agency shall state in writing the specific reasons for approving the project, based on the final CEQA documents and any other information in the public record for the project. The is termed, per Section 15093 of the state CEQA Guidelines, "a statement of overriding considerations."

The intent of this program EIR is to provide a comprehensive single environmental document that will allow the City of Bakersfield to carry out the proposed project. This EIR provides a reasonably anticipated scope of the project. This EIR will also be used to determine whether subsequent environmental documentation will be required. Subsequent actions on the project site may include, but not limited to, the consideration of tentative parcel or tract maps, conditional use permits, grading permits, building permits, etc. The lead agency can approve subsequent actions without additional environmental documentation unless as otherwise required by Public Resources Code Section 21166, and the state CEQA Guidelines Sections 15162 and 15163.

1.2 SCOPE OF THE EIR

The EIR will address the potential environmental effects of the proposed project. The scope of the EIR includes issues identified by the City of Bakersfield during the preparation of the Initial Study (IS) and Notice of Preparation (NOP) for the proposed project, and issues raised by agencies and the general public in response to the IS/NOP, as described below.

Environmental Procedures

This document analyzes the environmental effects of the project to the degree of specificity appropriate to the current proposed actions, as required by Section 15146 of the state CEQA Guidelines. This analysis considers the series of actions associated with the various discretionary actions required for project implementation to determine the associated short-term and long-term effects. This EIR discusses both the direct and indirect impacts of this project, as well as the cumulative impacts associated with buildout of the City's General Plan land uses.

CEQA requires the preparation of an objective, full disclosure document, to inform agency decision-makers and the general public of the direct and indirect environmental effects of the proposed action; provide mitigation measures to reduce or eliminate potential adverse effects; and identify and evaluate reasonable alternatives to the proposed project.

Scoping Process

In compliance with State CEQA Guidelines, the City of Bakersfield has taken steps to maximize opportunities to participate in the environmental process. During the preparation of the draft EIR, an effort was made to contact various federal, state, regional, and local governmental agencies and other interested parties to solicit comments and inform the public of the proposed project. This included the distribution

of the IS/NOP on February 2, 2000. The project was described, potential environmental effects associated with the project implementation were identified, and agencies and the public were invited to review and comment on the NOP. The close of the NOP review period was March 2, 2000. The IS/NOP and comment letters received during the NOP review period are included in Appendix A of this EIR.

Agencies, organizations, and interested parties not contacted or who did not respond to the request for comments about the project during the preparation of the draft EIR currently have the opportunity to comment during the 45-day public review period on the draft EIR.

1.3 EIR FOCUS AND EFFECTS FOUND NOT TO BE SIGNIFICANT

Based on the findings of the IS/NOP, a determination was made that an EIR is required to address the potentially significant environmental effects of the proposed project. The scope of the EIR includes issues identified by the City of Bakersfield during the preparation of the IS/NOP for the proposed project, as well as environmental issues raised by agencies and the general public in response to the IS/NOP. The following are the issues addressed in this EIR:

- Land Use and Planning
- Hazardous Materials Compliance
- Biological Resources
- Public Services and Utilities
- Traffic and Circulation
- Noise
- Air Quality
- Cultural Resources
- Aesthetics

The environmental issues that were determined not to be significantly affected by the proposed project and therefore, do not require evaluation in the document, per section 15063(c) of the State CEQA Guidelines, are as follows:

- Agriculture Resources
- Geology and Soils
- Hydrology and Water Quality
- Mineral Resources
- Population and Housing
- Recreation

The following is intended to supplement the information in the IS/NOP.

Recreation/Parks—Development of the proposed project is expected to result in a residential population of 11,503 people. This additional population would result in a demand for new parks and recreational facilities. The project site is located within the City of Bakersfield's park service area. The City has established a standard providing 2.5 acres of new parks per 1,000 population. Based on the park standard, the proposed project would create a demand for approximately 28.8 acres of parks. The proposed project will be required to be in accordance with the City's standard for providing parks. The project applicant will be required to

dedicate approximately 28.8 acres of land, pay a fee in accordance with the park standard, or a combination of parkland dedication and payment of a fee. After compliance with the park standard, no impacts to existing parks and recreational facilities would occur from project implementation.

1.4 COMPONENTS OF THE EIR ANALYSIS

The analysis of each environmental category within Section 5, Existing Conditions, Project Impacts, Cumulative Impacts, Mitigation Measures, and Level of Significance After Mitigation, of this EIR is organized into the following subsections.

- "Existing Conditions" describes the physical conditions that exist at this time and which may influence or affect the issue under investigation.
- "Project Impacts" describes the potential environmental changes to the existing physical conditions that may occur if the proposed project is implemented.
- "Cumulative Impacts" describes the potential environmental changes to the existing physical conditions that may occur with the proposed project, together with anticipated growth in the vicinity of the project site.
- "Mitigation Measures" are those specific measures that may be required of the project by the decision-makers in order to (1) avoid an impact, (2) minimize an impact, (3) rectify an impact by restoration, (4) reduce or eliminate an impact over time by preservation and maintenance operations, or (5) compensate for the impact by replacing or providing substitute resources or environment.
- "Level of Significance After Mitigation" discusses whether the project and the project's contribution to cumulative impacts can be reduced to levels that are considered less than significant.

1.5 PROJECT SPONSORS AND CONTACT PERSONS

The City of Bakersfield is the lead agency in the preparation of the EIR. Mountain View Bravo, LLC and S & J Alfalfa, Inc., the landowners, are the project applicant. Michael Brandman Associates is the environmental consultant for the project. Preparers of this EIR are provided in Section 10. Key contact persons are as follows:

Lead Agency:

City of Bakersfield
Marc Gauthier
1715 Chester Avenue
Bakersfield, California 93301

Project Applicant:	Mountain View Bravo, LLC/S & J Alfalfa, Inc. Phillippe Laik C/O Robert McMurray Nossaman, Gunther, & Knox, LLP 18101 Von Karmen Avenue, Suite 1800 Irvine, California 92612
Environmental Consultant:	Michael Brandman Associates Michael E. Houlihan, AICP 15901 Red Hill Avenue, Suite 200 Tustin, California 92780

1.6 REVIEW OF THE DRAFT EIR

This draft EIR was distributed to responsible and trustee agencies, other affected agencies, surrounding cities, and interested parties, as well as all parties requesting a copy of the draft EIR in accordance with Public Resources Code 21092(b)(3). The Notice of Completion of the draft EIR was also distributed as required by CEQA. During the 45-day public review period, the EIR, including technical appendices, is available for review at the City of Bakersfield, Planning Department, 1715 Chester Avenue, Bakersfield, CA 93301. Written comments on the draft EIR should be addressed to:

Marc Gauthier
City of Bakersfield
1715 Chester Avenue
Bakersfield, CA 93301

Upon completion of the 45-day review public review period, written responses to all significant environmental issues raised will be prepared and available for review at least 10 days prior to the public hearing before the Bakersfield City Council at which the certification of the final EIR will be considered. These environmental comments and their responses will be included as part of the environmental record for consideration by decision-makers for the project.

SECTION 2
EXECUTIVE SUMMARY

2.1 PROPOSED PROJECT

The project is an amendment to the Land Use Element and the Circulation Element of the Metropolitan Bakersfield 2010 General Plan and a concurrent zone change. The proposed Land Use and Circulation Element Amendments and the Zone Change will consist of boundary realignments of the Low Density Residential (2750 units), High Density Residential (1,300 units), and Commercial (1,048,706 square feet) land use designations and zoning districts. Proposed Circulation Element amendments include the addition of new arterial and collector street alignments within the development site. The project site is located within Section 17, the SE ¼ of the SE ¼ of Section 18, and the extreme NE portion (8.9 acres) of Section 19, Township 29 South, Range 29 East, in the northeast portion of Bakersfield. The project site encompasses approximately 694 acres and is located in the northeast portion of the City between Highway 178, Masterson Lane, Paladino Drive, and undeveloped portions of Vineland Road and Queen Street (one mile east of Morning Drive). The project site is mostly vacant with some oil extraction facilities in or near the southwest portion of the site.

2.2 AREAS OF CONTROVERSY/ISSUES TO BE RESOLVED

This EIR addresses nine primary issues including land use and planning, biological resources, traffic and circulation, noise, air quality, cultural resources, hazardous materials compliance, public services and utilities, and aesthetics. The proposed project includes residential uses in areas on the project site that would be exposed to excessive noise levels (i.e., greater than L50-55 dBA) during events at the Mesa Marin Raceway. This periodic exposure to excessive noise levels is considered potentially controversial. Furthermore, the project's contribution of traffic noise levels on offsite street segments, the project's impact on existing views as well as increase in night lighting, and the project's increase in long-term air emissions are considered potentially controversial.

Issues that are considered to be resolved include the timing of implementing the SR 178 Freeway and the modifications to the Plan Drainage Area for Breckenridge. In this EIR, it is assumed that the SR 178 Freeway would be constructed by the year 2020; however, there is currently no finances in place to construct the freeway. Furthermore, it is assumed that the modifications to the Plan Drainage Area for Breckenridge would be approved prior to development on the project site. Currently, these modifications are being prepared for consideration by the City. Issues that are considered to be resolved include the choice among the alternatives as well as whether or how to mitigate the significant effects of the project.

2.3 SUMMARY OF ALTERNATIVES

Alternatives have been developed to avoid or substantially lessen environmental impacts of the proposed project. Section 15126.6 of the CEQA Guidelines, "states that EIR shall include a range of reasonable alternatives to the project, or the location of the project, which would feasible attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." Section 7 provides descriptions and analysis of each alternative in adequate detail to allow the decision-maker to decide whether or not an alternative should be adopted in lieu of the proposed project. The alternatives evaluated in the following EIR include the following:

- No Project/No Development Alternative
- No Project/Development In Accordance with Existing General Plan Land Use Designations
- Alternative Design
- Less Intense Development Alternative

NO PROJECT/NO DEVELOPMENT ALTERNATIVE

Under the No Project/No Development alternative, the proposed development would not occur. The proposed site would remain in its present, mainly vacant condition. While no development would be permitted under this alternative, the underlying General Plan and zoning designations would be retained.

NO PROJECT/DEVELOPMENT IN ACCORDANCE WITH EXISTING GENERAL PLAN LAND USE DESIGNATIONS

This alternative includes the development of the project site with the existing General Plan land use designations. The project site would consist of 586.5 acres of low density residential, 67 acres of mixed-use commercial, 13 acres of high density residential, and 27 acres of roads (i.e., SR 178 right-of-way). A total of 4,518 residential dwelling units and 1,983,200 square feet of general commercial uses could be potentially developed on the project site under this alternative. This alternative would result in 468 more residential dwelling units and 934,494 more square feet of general commercial compared to the proposed project.

ALTERNATIVE DESIGN

This alternative includes avoidance of excessive noise levels (i.e., less than L50-55 dBA) by residential uses during events at the Mesa Marin Raceway. As a result, this alternative does not include any residential uses within the L50-55 dBA contour. This alternative includes 199.8 acres of low density residential, 96.9

acres of general commercial uses, 31.5 acres of SR 178 right-of-way, and 365.7 acres of vacant open space. A total of 1,450 residential dwelling units and 1,048,706 square feet of general commercial uses could be potentially developed on the project site under this alternative. This alternative would have 2,600 less residential units and the same amount of commercial uses. The project would include a substantial amount of vacant open space that would provide a buffer for residences from excessive noise levels from the events at Mesa Marin Raceway.

LESS INTENSE DEVELOPMENT ALTERNATIVE

The intent of this alternative is to avoid significant unavoidable long-term air emissions from the development of the project site. To reduce long-term air quality emissions to a level that is considered less than significant, no more than 10 tons of ROG or NOx could be generated in one year. Under the proposed project, NOx would be exceeded by approximately 113.25 tons per year. As a result, NOx would need to be reduced by approximately 92 percent so that no significant NOx emissions would be generated. This alternative assumes that all of the proposed land uses under the proposed project (i.e., low density residential, high density residential, and general commercial) would be reduced by 92 percent. Therefore, this alternative assumes the development of 223 low density residential units on approximately 41 acres, 105 high density residential units on 5 acres, and approximately 85,000 square feet of general commercial on approximately 8 acres. The developed acres for each use was derived from a similar density as identified for the proposed project. The development of this alternative would encompass 54 acres on the project site.

2.4 MITIGATION MONITORING PROGRAM

CEQA requires public agencies to set up monitoring report programs for the purpose of ensuring compliance with those mitigation measures adopted as conditions of approval in order to mitigate or avoid significant environmental effects as identified in the EIR. A mitigation monitoring program, incorporating the mitigation measures set forth in this document, will be adopted at the time of certification of the EIR.

2.5 SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Table 2-1 summarizes the potential environmental effects of the proposed project, the recommended mitigation measures, and the level of significance after mitigation. Impacts that are noted in the summary as "significant" after mitigation will require the adoption of a statement of overriding considerations, if the project is approved as proposed (CEQA Section 21081). Impacts of the project are classified as (1) NS, not significant (adverse effects that are not substantial according to CEQA, but may include mitigation); (2) S, significant (substantial adverse changes in the environment); (3) PS, potentially significant (potential substantial adverse changes in the environment); (4) B, beneficial (beneficial changes in the environment). Mitigation measures are listed, when feasible for each impact. The EIR also identifies other effects, which

are either not considered significant or are beneficial effects of the proposed project, but these are not the focus of this summary. The reader is referred to the full text of this EIR for a description of the environmental effects of the proposed project and feasible mitigation measures recommended to reduce these effects to a level considered less than significant.

TABLE 2-1
EXECUTIVE SUMMARY

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
LAND USE AND PLANNING (Section 5.1)		
Compatibility with Onsite Land Uses		
Implementation of the project would include right-of-way for the realignment of SR 178 through the proposed residential and commercial land uses onsite. Adherence to the mitigation measures described in Section 5.4 (Noise) would reduce potential adverse impacts. No other conflicts or incompatibilities among internal land uses are anticipated. (NS)	No measures are required.	Not Significant.
Compatibility with Surrounding Land Uses		
No potential significant incompatibilities between the proposed land uses within the project site and the surrounding land uses are anticipated because the proposed land uses are similar in nature and have been designed to compliment and support the land uses in the immediately surrounding area. (NS)	No measures are required.	Not significant.
Consistency with Plans, Policies, and Programs		
The proposed project would not conflict with most of the goals of the General Plan and with other regional plans and policy documents including the Metropolitan Bakersfield Habitat Conservation Plan, Air Quality Attainment Plan, and the Regional Transportation Plan. However, the project would not be consistent with the Noise Element of the City's General Plan. The project includes residences in an area that would expose residents to noise levels that exceed the City's noise performance. (S)	No feasible measures are available for the project applicant to reduce noise levels from the Mesa Marin Raceway to less than the City's noise performance standard for residences.	Significant and unavoidable.

TABLE 2-1
EXECUTIVE SUMMARY
(CONTINUED)

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
BIOLOGICAL RESOURCES (Section 5.2)		
Loss of Habitat		
Implementation of the proposed project would eliminate approximately 684 acres of non-native grassland habitat and approximately 10 acres of valley saltbush scrub. Development of the proposed project would eliminate suitable foraging habitat for raptors, in addition to reducing or eliminating some plant and wildlife populations on the site. (NS)	No measures are required.	Not significant.
Special-Status Species		
Direct take of San Joaquin kit fox, blunt-nosed leopard lizard, and burrowing owl could possibly occur during grading of the approximately 694-acre site. Vehicular collisions as well as depredation by domestic dogs and cats could also result in the direct take of special-status wildlife species. (S)	Prior to the issuance of a grading permit, the project applicant shall pay a development fee in accordance with the MBHCP. Prior to the issuance of a grading permit on the 694-acre site, the project proponent shall comply with all appropriate terms and conditions of the MBHCP. The MBHCP requires certain take avoidance measures for the San Joaquin kit fox. MBHCP guidelines regarding tracking and excavation shall be followed to prevent entrapment of kit fox in dens. Specific measures during the construction phase of the project shall be implemented and include the following: a) A preconstruction survey shall be conducted prior to site grading to search for active kit fox dens. The survey shall be conducted not more than 30 days prior to the onset of construction activities in areas subject to development to determine the necessity of den excavation. b) Monitoring and excavation of each known San Joaquin kit fox den which cannot be avoided by construction activities shall occur.	Not Significant

TABLE 2-1
EXECUTIVE SUMMARY
(CONTINUED)

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	c) Notification of wildlife agencies of relocation opportunity prior to ground disturbance in areas of known kit fox dens shall be provided. d) Excavations shall either be constructed with escape ramps or covered to prevent kit fox entrapment. All trenches or steep-walled excavations greater than three feet deep shall include escape ramps to allow wildlife to escape. Each excavation shall contain at least one ramp, with long trenches containing at least one ramp every 1/4 mile. Slope of ramps shall be no steeper than 1:1. e) All pipes, culverts or similar structures with a diameter of four inches or greater shall be kept capped to prevent entry of kit fox. If they are not capped or otherwise covered, they will be inspected prior to burial or closure to ensure no kit foxes, or other protected species, become entrapped. f) All employees, contractors, or other persons involved in the construction of the project shall attend a "tailgate" session informing them of the biological resource protection measures that will be implemented for the project. The orientation shall be conducted by a qualified biologist and shall include information regarding the life history of the protected species, reasons for special status, a summary of applicable environmental law, and measures intended to reduce impacts. g) All food, garbage, and plastic shall be disposed of in closed containers and regularly removed from the site to minimize attracting kit fox or other animals.	

TABLE 2-1
EXECUTIVE SUMMARY
(CONTINUED)

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	Because "take" of blunt-nosed leopard lizards is also currently prohibited by Section 5050 of the California Fish and Game Code, additional mitigations are necessary in addition to those required by the MBHCP. The following measures are recommended to comply with this Section 5050: a) Surveys for blunt-nosed leopard lizards shall be conducted following CDFG protocols. These surveys should be conducted between April 15 and June 30 under the specified time and temperature conditions. This survey is necessary to determine the current status of blunt-nosed leopard lizards on the project site. b) If blunt-nosed leopard lizards are detected, the applicant shall submit methods for compliance with Fish and Game Code Section 5050 to CDFG for review and approval.	
Raptor Nest Disturbance Implementation of the proposed project may disturb active burrowing owl nests. Nests of other raptors are not expected to be impacted. (S)	Prior to the issuance of a grading permit for the approximately 694-acre site, the project applicant shall comply with the following raptor nest mitigation: a) If site grading is proposed during the raptor nesting season (February-September), a focused survey for raptor nests shall be conducted by a qualified raptor biologist prior to grading activities in order to identify active nests in areas potentially impacted by project implementation.	Not significant.

TABLE 2-1
EXECUTIVE SUMMARY
(CONTINUED)

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	b) If construction is proposed to take place during the raptor nesting/breeding season (February - September), no construction activity shall take place within 500 feet of an active nest until the young have fledged (as determined by a qualified raptor biologist). Any nests that must be removed as a result of project implementation shall be removed during the non-breeding season (October-January). c) Preconstruction surveys shall include a survey for burrowing owl. If active burrowing owl burrows are detected outside of breeding season (September 1 through January 31), passive and/or active relocation efforts may be undertaken if approved by CDFG and USFWS. If active burrowing owl burrows are detected during breeding season (February 1 through August 31), no disturbance to these burrows shall occur without obtaining appropriate permitting through the Migratory Bird Treaty Act.	
Sensitive Habitats/Jurisdictional Areas Areas under the jurisdiction of USACE or CDFG may be impacted by the project. Impacts to these areas would be considered significant. (S)	A formal jurisdictional delineation will be conducted. If project development would impact jurisdictional areas, a Clean Water Act, Section 404 permit from USACE and/or a CDFG Section 1601 Streambed Alteration Agreement will be obtained from USACE and/or CDFG respectively Prior to the issuance of a grading permit and/or approval of plans and specifications. USACE and CDFG typically require mitigation plans to be prepared prior to the loss of habitat within jurisdictional areas.	Not significant.

TABLE 2-1
EXECUTIVE SUMMARY
(CONTINUED)

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Indirect Impacts		
Following project buildout, increased vehicular traffic, noise, pollutants, and other indirect impacts are expected to adversely affect local wildlife. Wildlife mortality could occur from collisions with motor vehicle traffic. Depredation on native wildlife by dogs and cats is expected to increase. Human related impacts on wildlife such as disturbance of active nests or dens, are also expected to increase. The introduction of non-native invasive plant species could occur due to project implementation. (S)	The following invasive exotic plants shall not be used in any project residential or commercial landscaping: tamarisk (all species) and pampas grass. In addition, vegetation at any ponds or water features shall be managed in a way such that none of the invasive exotic plants listed by the Department of Agriculture allowed to become established. Typical invasive exotic plants that can become problematic in this region include: water hyacinth and pampas grass. During construction, site boundaries shall be clearly marked with flagging, fencing, or other suitable material to prevent construction equipment and vehicles from impacting adjacent habitat areas potentially occupied by special status species.	Not Significant
TRAFFIC AND CIRCULATION (Section 5.3)		
The proposed project will result in the generation of 60,976 trips of which 51,830 trips will be distributed to roadways in the project vicinity while the remaining 9,146 trips would remain on roadways on the project site. This increase in project traffic as well as traffic from future related growth would result in project and cumulative impacts to 4 intersections and 4 street segments in the year 2010 and 12 intersections and 1 street segment in the year 2020. (S)	Prior to the issuance of building permits, the project applicant shall comply with the Metropolitan Bakersfield Transportation Impact Fee Program. These improvement fees shall be used to provide the improvements listed on pages 44 and 45 in Appendix C in the Draft EIR. The following improvements shall be included within the improvement list. Prior to issuance of building permits, the applicant's funding calculations for all improvements associated with the fee program shall be submitted to the City for review and approval. • The following traffic signals shall be installed in the year 2020. - Panorama Drive and Morning Drive - Morning Drive and Auburn Street - Paladino Drive and Fairfax Road - Vineland Road and SR 184 - Paladino Drive and Morning Drive	Not significant.

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	• The following roadway segment shall be installed in the year 2020. - Install lanes of pavement on Paladino Drive and Fairfax Road to Masterson Street. - Install 2 additional lanes of payment on Kern Canyon Road from SR 178 to Niles Street. Prior to the issuance of building permits, the project applicant shall provide its fair share funding toward the following improvements. At the time of issuing building permits, the applicant's funding calculations for all improvements associated with the fee program shall be submitted to the City for review and approval. • Traffic signals shall be installed at the following locations in the years 2010 and 2020: Year 2010 (Project One-Half Buildout) - Vineland Road and Interior Collector Street - Panorama Drive and Interior Collector Street (2 locations) - Panorama Drive and Masterson Street - Morning Drive and SR 178 - Masterson Street (SR 184) and Old SR 178 - Vineland Road and SR 178 Year 2020 (Full Project Buildout) - SR 184 and Chase Avenue - Queen Street and Paladino Drive - Alfred Harrell Highway/Comanche Drive and SR 178 • The following intersection improvement shall be installed at the following location. Year 2010 (Project One-Half Buildout) - Add one left turn lane to eastbound and westbound lanes and re-time traffic signals at the intersection of Fairfax Road and SR 178.	

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	• The following roadway segments shall be installed in the year 2010. Year 2010 (Project One-Half Buildout) - Install Vineland Road between SR 178 and Collector Loop Street - Install half width of SR 178 and Masterson Street along the project frontage. - Install 2 lanes of pavement on Panorama Drive from Morning Drive to Queen Street - Install 2 additional lanes of pavement on Old SR 178 from Fairfax Road to Alfred Harrell Highway/Comanche Drive. Prior to the issuance of a building permit, the project applicant shall provide funding for future realigned SR 178 between Fairfax Road and Alfred Harrell Highway/Comanche Drive. The funding will be for that portion of future realigned SR 178 which is determined to be the obligation of local development. The project's share of traffic on SR 178 is 7.5 percent. Prior to the issuance of building permits, the project applicant shall provide the City of Bakersfield with a phasing plan of the onsite roadway segments. The project applicant shall install the following roadway segments that are not part of the Metropolitan Bakersfield Transportation Impact Fee Program. - Install Panorama between Queen Street and Masterson Street - Install the onsite Collector Loop Street - Install Valley Lane between Panorama Drive and Paladino Drive - Install Queen Street between Panorama Drive and Paladino Drive	

TABLE 2-1
EXECUTIVE SUMMARY
(CONTINUED)

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
NOISE (Section 5.4)		
Construction Noise		
Earthmoving, materials handling, stationary, and impact equipment and vehicles would generate noise during clearing, excavation, grading, structure, roadway, and utility construction operations associated with the development of the proposed project. Since construction noise is temporary and would be restricted to 7:00 a.m. to 7:00 p.m. Monday through Friday, and 9 a.m. to 6 p.m. on Saturday and Sunday, no significant short-term noise impacts would occur from construction activities. (NS)	No measures are required.	Not significant.
Commercial Noise Sources		
Proposed commercial land uses would be adjacent and near proposed residential land uses which would be exposed to varying amounts of commercial noise impacts from such sources as air condition units, trash compactors, fans, compressors, and truck deliveries. (PS)	Prior to the issuance of a building permit for the proposed commercial uses, the project applicant shall demonstrate that project commercial noise source impacts on nearby residences are below those indicated in the City's hourly noise level performance standards. To demonstrate commercial noise source impacts are below the City's standards, the project applicant may need to include project design features such as setbacks, barriers, building location/orientation, acoustical design of buildings, etc.	Not significant.

TABLE 2-1
EXECUTIVE SUMMARY
(CONTINUED)

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Project-Related Onsite Traffic Noise		
Development of the proposed land uses would result in a daily traffic volume increase of approximately 60,976 trips. In the year 2010, two onsite street segments along Masterson Street would experience noise levels that exceed 65 dB CNEL, which is considered a significant impact in noise impact. In the year 2020, there would be 6 onsite street segments along Panorama Drive, Vineland Road, SR 178 (future alignment), Masterson Street, and Paladino Drive that would experience noise levels that exceed 65 dB CNEL which is also considered a significant noise impact. (S)	Prior to the issuance of building permits, the project applicant shall reduce noise levels on the project residences by setting residential uses back from the roads by a distance equal to or greater than the 65 dB CNEL contour. For the future alignment of SR 178, the minimum setback distance shall be 188 feet; for the remaining roadway mentioned above, the minimum setback shall be 84 feet. As an alternative to setbacks, the project applicant could use sound walls to mitigate traffic noise levels. The exact height and placement of soundwalls would depend on lot design and grading. Walls in the range of 6 to 10 feet probably would suffice for most situations. When lot design and grading are established, an acoustical consultant shall establish necessary wall heights and locations.	Not significant.
Project Related Offsite Traffic Noise		
In the year 2010, one offsite roadway segment (along SR 178) would experience a significant adverse project-related traffic noise level and in the year 2020, there would be 6 offsite roadway segments (along Panorama Drive, Fairfax Road, and Paladino Drive) that would experience significant adverse project-related traffic noise levels. (S)	No feasible measures are available for the project applicant to reduce offsite traffic noise.	Significant and unavoidable.
Mesa Marin Raceway Noise		
Development of residential land uses in the southern half of the project site will expose residents to noise levels that exceed L50-55 dBA. These noise levels would be generated by racing events at the adjacent Mesa Marin Raceway. (S)	No feasible measures are available for the project applicant to reduce noise levels from the Mesa Marin Raceway to less than L50-55 dBA.	Significant and unavoidable.
Cumulative Offsite Traffic Noise		
In the year 2020, the proposed project and future growth will result in significant adverse cumulative traffic noise levels along Panorama Drive, old SR 178, Fairfax Road, Morning Drive, SR 184, SR 178 (future alignment), Masterson Street, and Paladino Drive. (S)	No feasible measures are available for the project applicant or applicants for development of future growth to reduce offsite traffic noise.	Significant and unavoidable.

TABLE 2-1
EXECUTIVE SUMMARY
(CONTINUED)

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
AIR QUALITY (Section 5.5)		
Short-Term Emissions		
Construction activities are a source of dust (PM10) emissions that can have a substantial temporary impact on local air quality. Fugitive dust emissions are associated with land clearing, ground excavation, cut and fill operations, and truck travel on unpaved roads. (S)	The construction of the proposed project would result in the generation of fugitive dust. Compliance with SJVUAPCD Regulation VIII and the City of Bakersfield air quality regulations would result in no significant fugitive dust emissions. To ensure compliance, the following measure shall be implemented. Prior to approval of a grading plan for any residential tract, multiple family project, and commercial project, the project applicant shall submit a letter to the City of Bakersfield Planning Department from the SJVUAPCD stating the dust suppression measures that shall be completed during construction activities to comply with SJVUAPCD Regulation VIII. In addition to compliance with Regulation VIII, the following shall be incorporated into building plans. The following measures can further reduce fugitive dust emissions associated with the project.	Not signficant.

TABLE 2-1
EXECUTIVE SUMMARY
(CONTINUED)

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	The following shall be incorporated into building plans. • Cover all access roads and parking areas with asphalt-concrete paving. • Asphalt-concrete paving shall comply with SJVUAPCD Rule 4641 and restrict the use of cutback, slow-cure and emulsified asphalt paving materials. • Use water sprays or chemical suppressants on all unpaved areas to control fugitive emissions. • Enclose, cover or water all stockpiled soils to reduce fugitive dust emissions. • Cease grading activities during periods of high winds (greater than 20 mph over a one-hour period). • Limit construction-related vehicle speeds to 15 mph on all unpaved areas at the construction site. • All haul trucks should be covered when transporting loads of soil. • Wash off construction and haul trucks to minimize the removal of mud and dirt from the project sites.	

TABLE 2-1
EXECUTIVE SUMMARY
(CONTINUED)

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Construction activity will also result in exhaust emissions from diesel-powered heavy equipment. Exhaust emissions from construction include emissions associated with the transport of machinery and supplies to and from the site, emissions produced onsite as the equipment is used, and emissions from trucks transporting excavated materials from the site and fill soils to the site. Examples of these emissions include CO, ROG, NO_x, SO_x and PM_{10}. (S)	The following shall be incorporated into grading and building plans. • Properly and routinely maintain all construction equipment, as recommended by manufacturer manuals, to control exhaust emissions. • Shut down equipment when not in use for extended periods of time to reduce emissions associated with idling engines. • Encourage ride sharing and use of transit transportation for construction employee commuting to the project sites. • Use electric equipment for construction whenever possible in lieu of fossil fuel-fired equipment.	Not Significant.
Long-Term Emissions Long-term emissions will be caused by mobile sources (vehicle emissions) and stationary source energy consumption (heating and cooling) emissions. The major long-term impact to air quality will be ROG and NOx emissions caused by motor vehicles traveling to and from the project site, and NOx emissions from stationary source energy consumption. (S)	Prior to issuance of a building permit, transportation control measures and design features shall be incorporated into the project to reduce emissions from mobile sources. A strategy to reduce vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, and traffic congestion includes the following: • Improve street and traffic signals for those intersections and street segments that the proposed project contributes traffic.	Significant and unavoidable.

TABLE 2-1
EXECUTIVE SUMMARY
(CONTINUED)

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	The project applicant shall incorporate the following in building plans. • Use low-NO_x emission water heaters. • Provide shade trees to reduce building cooling requirements. • Install energy-efficient and automated air conditioners. • Exterior windows shall all be double-paned glass. • Energy-efficient (low-sodium) parking lights shall be used. • Use EPA-approved wood burning stoves, fireplace inserts or pellet stoves in lieu of conventional fireplaces.	
Conformity With The Air Quality Attainment Plan		
The Air Quality Attainment Plan recognized growth of the population and economy within the Air Basin. The plan predicted the workforce in Kern County to increase 40 percent and housing to increase 30 percent from 1990 to 2000. This project can be viewed as growth that was anticipated by the plan. (NS)	No measures are required.	Not Significant.
CULTURAL RESOURCES (Section 5.6)		
Archaeological/Historical Resources		
Implementation of the proposed project would affect two archaeological sites; however, these sites have characteristics of a single, one-time only activity. Therefore, these two sites were determined to be not significant. (NS)	If cultural resources are unearthed during construction activities, all work shall be halted in the area of the find. A qualified archaeologist shall be called in to evaluate the findings and recommend any necessary mitigation measures. Proof of compliance with any recommendations resulting from such evaluation, if required, shall be submitted to the Southern San Joaquin Valley Archaeological Information Center (AIC) at California State University, Bakersfield, and to the City of Bakersfield Development Services Department.	Not significant.

TABLE 2-1
EXECUTIVE SUMMARY
(CONTINUED)

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Paleontological Resources Grading activities in the southwest portion of the project site between elevations 600 feet and 700 feet could result in impacts to the Sharktooth Hill bonebed. (PS)	A paleontological monitoring program that includes the following measures shall be implemented to reduce potential impacts on the Sharktooth Hill bonebed. • Prior to grading, a paleontologist shall be retained, attend a pre-grading meeting, and set forth the procedures to be followed during the monitoring program. • One paleontological monitor that is trained and equipped to allow rapid removal of fossils with minimal construction delay is expected to be sufficient. Full-time monitoring of the portions of the project site that have earth-disturbing activities at elevations between 600 feet and 700 feet shall be provided. • If fossils are found within an area being cleared or graded, earth-disturbing activities shall be diverted elsewhere until the monitor has completed salvage of the fossils. If construction personnel make the discovery, the grading contractor shall immediately divert construction and call the monitor to the site. Major salvage time may be shortened by grading constructor's assistance (e.g., removal of overburden, lifting, and removing large and heavy fossils). • The project paleontologist shall prepare, identify, and curate all recovered fossils. Upon completion of grading, the project paleontologist shall prepare a summary report documenting mitigation and results, with itemized inventory of collected specimens. The paleontologist shall submit the report to the City of Bakersfield, designated depository, and any other appropriate agency, and transfer fossil collection to an appropriate depository. The summary report shall be submitted to the City. This submittal will signify completion of the program to mitigate impacts on paleontological resources.	

TABLE 2-1
EXECUTIVE SUMMARY
(CONTINUED)

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
HAZARDOUS MATERIALS COMPLIANCE (Section 5.7)		
Implementation of the proposed project would not result in impacts with known and/or suspect hazardous materials. However, there is a potential that previously unknown hazardous materials contamination from historical use of the project site may be encountered during project development activities. It is unlikely that any such contamination would be extensive beyond the capacities of typical remediation measures. (NS)	Prior to the issuance of grading permits, the grading permits, the grading plans shall specify that in the event that hazardous waste is discovered during site preparation or construction, the property owner/developer shall ensure that the identified hazardous waste and/or hazardous material is handled and disposed of in the manner specified by the State of California Hazardous Substances Control Law (Health and Safety Code, Division 20, Chapter 6.5) and according to the California Administrative Code, Title 30, Chapter 22.	Not significant.
Implementation of the City in the Hills Project would introduce new land uses to the project area and hence would result in the additional use of hazardous materials and an increase in hazardous waste generated onsite. (NS)	The applicant shall handle and dispose of all hazardous materials and wastes during the operation and maintenance of facilities in accordance with state codes.	Not significant.
Implementation of the proposed project could result in potential impacts with unrecorded oil wells. (NS)	Prior to the issuance of grading permits, the grading plans shall specify that in the event that any abandoned or unrecovered oil wells are uncovered or damaged during excavation or grading, remedial plugging operations will be required. No structures are to be located over a previously plugged or abandoned well.	Not significant.
PUBLIC SERVICES AND UTILITIES (Section 5.8)		
Fire Protection Services		
Development of the proposed project would result in a substantial increase in population and structures on the project site and require 8.7 additional fire protection personnel to serve the site based on the current City staff levels. (S)	Prior to the issuance of building permits, the project applicant shall pay its fair share toward the construction of a new fire station and provision of fire department personnel that will serve the project vicinity. Prior to the approval of grading plans, the project applicant shall submit emergency fire access plans to the Fire Department for review and approval to assure that service to the site is in accordance with the Bakersfield Fire Department requirements.	Not significant.

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	Prior to the commencement of structured framing onsite, the project applicant shall install fire hydrants in accordance with the City-approved building plans. Prior to the approval of street improvement plans, the project applicant shall demonstrate to the City Fire Department that the onsite water supply system is designed to provide sufficient fire flow pressure and storage in accordance with City Fire Department requirements.	
Police Protection Services		
Development of the proposed project would result in a substantial increase in population and structures on the project site and require 15 additional police protection personnel to serve the site based on the current City staff levels. (S)	Prior to the issuance of building permits, the project applicant shall pay its fair share toward the provision of additional police protection personnel and equipment that will serve the project vicinity.	Not significant.
School Services		
Implementation of the proposed project would result in the generation of 2,087 K-6th, 821 7-8th, and 1,013 9-12th students. (S)	Prior to the issuance of building permits, the project applicant shall pay District-adopted development impact school fees that are in effect at the time of issuing each permit. The District-adopted fees are required to be in accordance with State statutes that are in effect at the time of issuing each permit.	Not significant.
Solid Waste Services		
The proposed project would generate approximately 12,200 tons of solid waste per year. (NS)	Prior to the issuance of building permits for residential uses, the applicant shall demonstrate how the project would participate in a waste management program, which includes but is not limited to the following: • A commitment to contract with a recycling business for the collection and repossessing of glass, mixed and newsprint paper, plastics, and aluminum for all residential uses. • A commitment to begin the recycling when solid waste collection begins.	Not significant.

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	• Provision of onsite receptacles for the collection of glass, mixed and newsprint paper, plastics, and aluminum for recycling purposes shall be provided. Locations of receptacles shall be indicated on building plans. • Ensuring that hazardous waste disposal complies with federal, state, and city regulations.	
Electricity		
The proposed project would result in the consumption of approximately 66.3 million kilowatt hours per year. (NS)	No measures are required.	Not significant.
Natural Gas		
Development of the proposed project would result in the consumption of approximately 61 million cubic feet of natural gas per year. (NS)	No measures are required.	Not significant.
Wastewater		
The proposed project would result in the generation of approximately 1.5 million gallons per day. (NS)	No measures are required.	Not significant.
Water		
The proposed project would result in the consumption of 2.7 million gallons per day at full buildout. (NS)	Prior to the issuance of building permits, the project applicant shall coordinate with the California Water Company to establish precise locations for water distribution and storage facilities that would be constructed onsite and offsite to adequately serve each of the residential and non-residential water needs of the proposed project.	Not significant.

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Stormwater Drainage Development of the proposed project would result in substantial increases in stormwater runoff and result in potential significant impacts on existing drainage facilities (S)	Prior to the issuance of a grading permit, the project applicant shall submit drainage plans for the project site for review and approval by the City of Bakersfield. The drainage plans shall identify all necessary onsite and offsite drainage facilities to accommodate project-related as well as cumulative (in accordance with the existing General Plan) drainage volumes and velocities. Modifications to the existing PDA for the Breckenridge area will require an approval of an amendment to the PDA by the City of Bakersfield.	Not Significant
AESTHETICS (Section 5.9)		
Since the project site does not currently include any development, implementation of the proposed project would substantially alter the existing visual characteristics of the site and substantially alter the existing viewsheds surrounding the site. (S)	Prior to the issuance of grading permits, the project applicant shall prepare landscape plans for the project area to provide visual relief from project structures.	Not significant.
The proposed project would introduce new sources of light associated with the general commercial land uses, including parking lot lighting, sign lighting, and security lighting. Increased traffic in the area would also create additional sources of light. (S)	Prior to the issuance of building permits, the project applicant shall outline specifications for outdoor lighting locations and other intensely lighted areas. The specifications shall identify minimum lighting intensity needs and design lights to be directed towards intended uses. Methods to reduce light impacts may include low-intensity light fixtures and hooded shields. Prior to the issuance of building permits, the project applicant shall submit and obtain City approval of lighting plans. The lighting plans shall verify that outdoor lighting on private residences is designed so that all direct rays are confined to the site and that adjacent residences are protected from substantial light and glare.	Not significant.

SECTION 3
PROJECT DESCRIPTION

3.1 PROJECT LOCATION

The project site is located in the northeastern portion of the City of Bakersfield in Kern County, approximately 8.5 miles east of State Roue 99 and 3 miles north of SR 58 (see Exhibit 3-1). The project site consists of approximately 694 acres and is generally located north of SR 178, west of Masterson Lane, south of Paladino Drive, and east of the future extension of Vineland Road which is located approximately one mile east of Morning Drive (see Exhibit 3-2). The project site is located on the United States Geologic Services (USGS) topographic map in Sections 17 (640.1 acres), the Southeast ¼ of the Southeast ¼ of Section 18 (40 acres), the extreme northeast portion of Section 19 (9 acres), and the extreme northwest portion of Section 20 (4.9 acres) in Township 29 South and Range 29 East.

3.2 PROJECT CHARACTERISTICS

The proposed project involves a mixed-use development. The proposed uses include 2,750 single family lots, 1,300 multiple family lots, and 1,048,706 square feet of gross leasable commercial floor area. Table 3-1 provides a land use statistical summary of the proposed project. As shown in Table 3-1, the project includes a residential population of approximately 11,500 and approximately 2,060 employment opportunities.

TABLE 3-1
LAND USE STATISTICAL SUMMARY

LAND USE	AREAS	UNITS/SF[a]	POPULATION	EMPLOYMENT
Residential				
Low Density	500.0	2,750 units	8,305	N/A
High Density	65.5	1,300 units	3,198	N/A
Commercial				
General Commercial	96.9	1,048,706 SF	N/A	2,056
Other				
SR 178	27.3	N/A	N/A	N/A
SR 178 Ramp Right-of-Way	4.2	N/A	N/A	N/A
TOTAL	**693.9**	**4,050 units/ 1,048,706 SF**	**11,503**	**2,056**

SF – Square Feet N/A – Not Applicable

[a] Information is based on the traffic report in Appendix C prepared by Crenshaw Traffic Engineering in March 2000.

[b] Based on 3.02 people per low density residential dwelling units and 2.46 people per high density residential dwelling units.

[c] Based on 1 employee per 510 square feet of general commercial.

Source: Michael Brandman Associates 2000.

As shown in Table 3-1, the proposed project includes right-of-way for the future re-alignment of SR 78 as well as the right-of-way for the Vineland Road and Masterson Street freeway ramps. North of the future re-alignment primarily includes single family lots with some multiple family lots and commercial uses in the southwest portion of the site and commercial uses along the eastern portion of the site. South of the future re-alignment includes multiple family lots and commercial uses.

Buildout of the City in the Hills project is proposed to occur over 20 years. The project will generally be developed in two phases with half of the project built out by the year 2010 and full project buildout occurring in the year 2020. The specific developments occurring during each phase has not yet been determined. It is assumed, however, that although not an element of the project, SR 178 will be realigned and at full freeway status by the year 2020. Additionally, it is assumed that there will be the following interchanges: Fairfax Road, Morning Drive, Vineland Road, and Masterson Street by the year 2020. Approximately 4.5 percent (31 acres) of the project site has been set aside for the ultimate right-of-way alignment of SR 178.

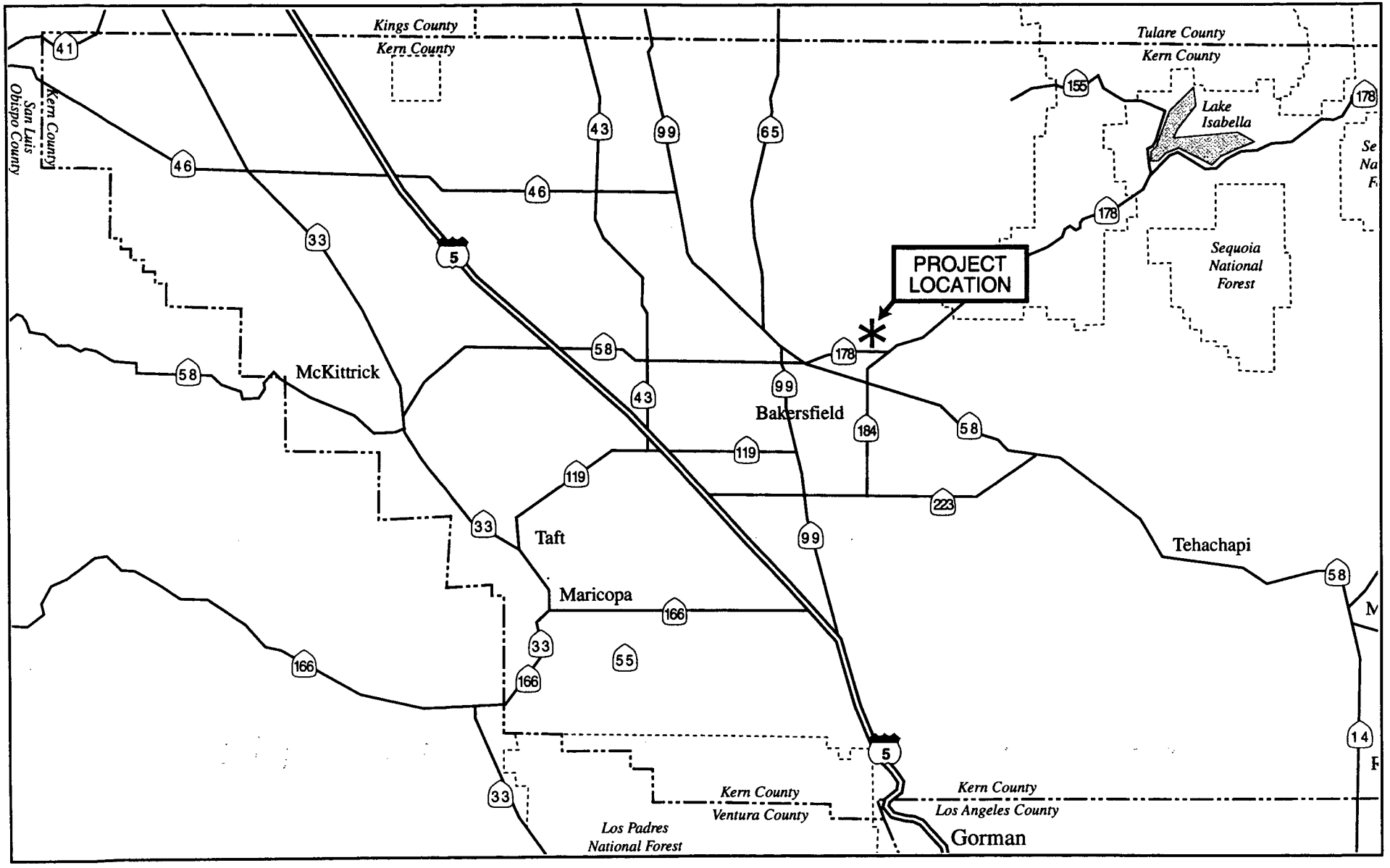
GENERAL PLAN LAND USE ELEMENT AMENDMENT

Exhibit 3-3 illustrates the proposed land use changes on the project site. Table 3-2 provides a summary of the proposed General Plan land use changes.

TABLE 3-2
PROPOSED GENERAL PLAN LAND USE DESIGNATION CHANGES

Existing Land Use Element Designations	Proposed Land Use Element Designations	Acreage
MUC (Mixed Use Commercial) LR (Low Density Residential) HR (High Density Residential)	GC (General Commercial)	96.9
LR (Low Density Residential)	LR (Low Density Residential # 7.26 dwelling units per net acre)	500
MUC (Mixed Use Commercial) LR (Low Density Residential)	HR (High Density Residential > 17.42 > 72.60 dwelling units per net acre)	65.5
Various	Roads	31.5
TOTAL GENERAL PLAN LAND USE DESIGNATION CHANGES		**693.9**

The proposed land use amendments will occur in the vicinity of the proposed re-alignment of SR 78. The land use amendments include changing existing uses to high density residential and general commercial because these uses would be generally more compatible with the future re-alignment of SR 78.



NORTH

12 6 0 12

SCALE IN MILES

Michael Brandman Associates

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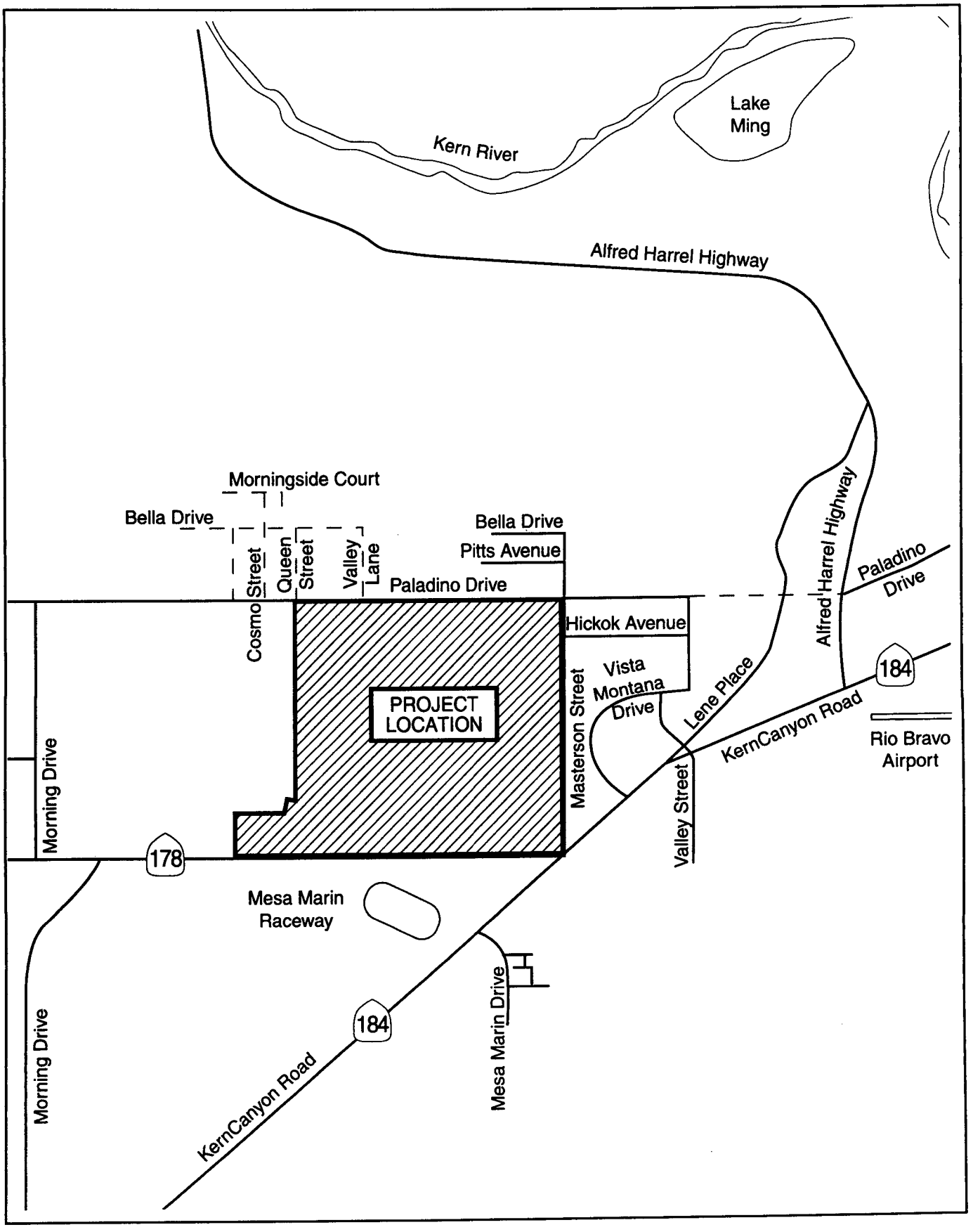
Exhibit **3-1**

Regional Location Map

CITY OF BAKERSFIELD • CITY IN THE HILLS



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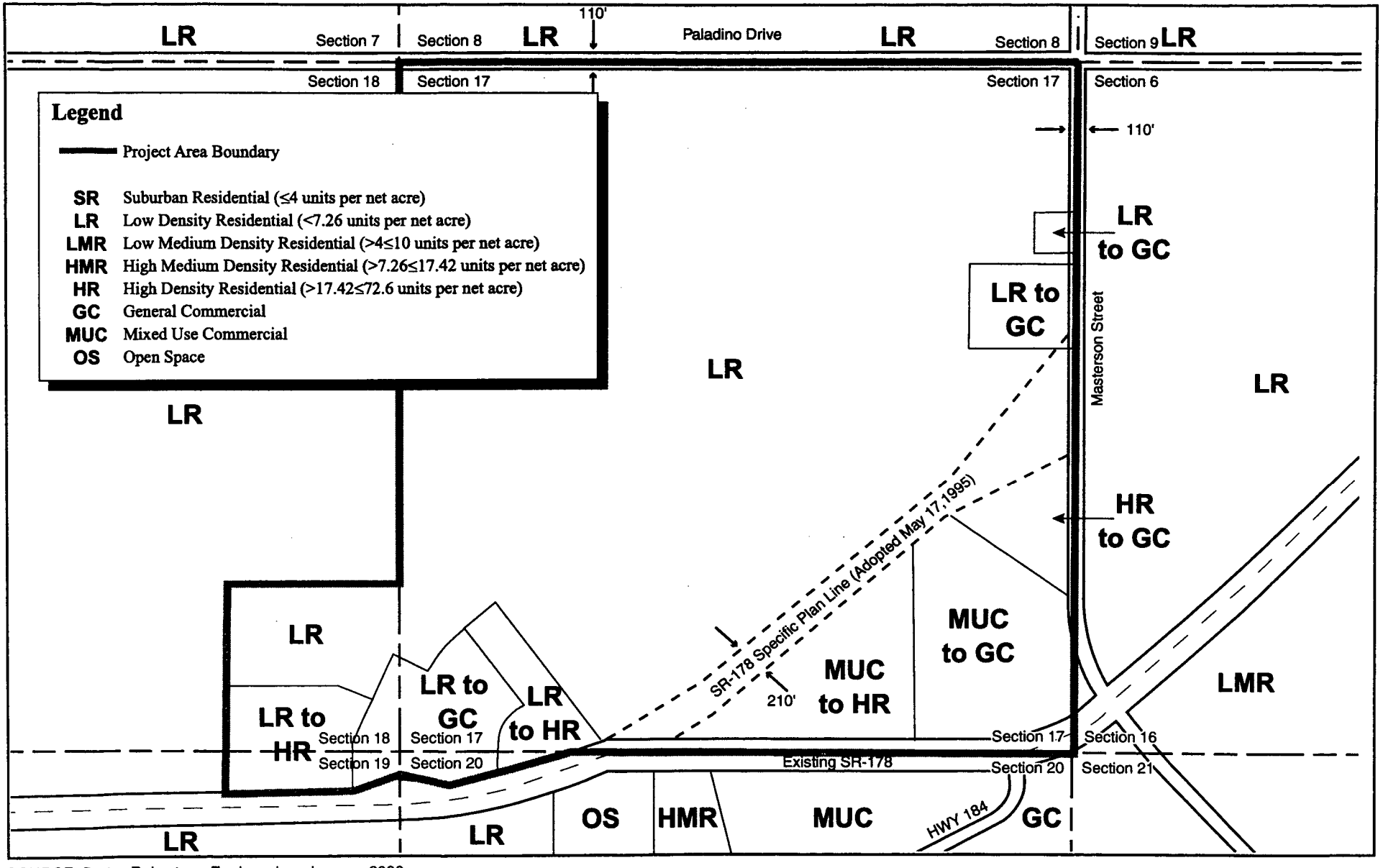
SCALE IN MILES

Michael Brandman Associates

Exhibit **3-2**

Local Vicinity Map



SOURCE: Porter-Robertson Engineering, January 2000.

NORTH

1056 528 0 1056

SCALE IN FEET

Michael Brandman Associates

Exhibit **3-3**

Proposed General Plan Amendment

CIRCULATION ELEMENT AMENDMENTS

Amendments to the Circulation Element are proposed as part of the project. As shown on Exhibit 3-4, a portion of an east-west onsite collector is proposed to be realigned along with a northeast to southwest arterial that extends from Paladino Drive to Queen Street. The project includes a proposed northeast to southwest collector that will intersect SR 178 along the Vineland Road alignment, a proposed collector along the Valley Lane alignment between Paladino Road and the alignment of Panorama Drive, a realignment of Panorama Drive through the project site, and a realignment of an arterial between Paladino Drive and the future alignment of Panorama Drive. Furthermore, a loop road on the project site is proposed as a collector.

ZONE CHANGE

Exhibit 3-5 present the proposed land use changes to the Zoning Map. The zone changes have been requested to bring the zoning land use designations into conformance with the proposed General Plan land use changes. Table 3-5 provides a summary of the proposed zone changes.

TABLE 3-3
PROPOSED ZONING DESIGNATION CHANGES

Existing Zoning Designations	Proposed Zoning Designations	Acreage
A (Agriculture), R-1 (One Family Dwelling)	C-2 (Regional Commercial)	96.9
A (Agriculture)	R-1 (One Family Dwelling 6,000 sq. ft. minimum lot size)	500
A (Agriculture), R-1(One Family Dwelling)	R-3 (Limited Multi-Family 6,000 sq. ft. minimum lot area, one dwelling unit per 1,250 sp. Ft. minimum)	65.5
Various	Roads	31.5
TOTAL ZONING DESIGNATION CHANGES		**693.9**

The entire project site is subject to a zone change. The majority of the project site is being changed from A (Agriculture) to R-1 (One Family Dwelling Zone). Other areas are being changed from A (Agriculture) to C-2 (Regional Commercial) and R-3 (Limited Multi-Family). In the southwest portion of the project site, the zone changes include R-1 (One Family Dwelling Zone) to C-2 (Regional Commercial) and R-3 (Limited Multi-Family).

STATE ROUTE 78 SPECIFIC PLAN LINE AMENDMENT

The proposed project includes the dedication of right-of-way for an interchange at Masterson Street. The current SR 78 Specific Plan Line does not include an interchange at Masterson Street.

PLAN DRAINAGE AREA FOR BRECKENRIDGE AMENDMENT

The proposed project includes the modification of planned drainage facilities that are currently part of the Plan Drainage Area for Breckenridge. The southern portion of the site was originally identified for a drainage basin; however, due to drainage issues associated with other parts of the Plan Drainage Area, a comprehensive re-evaluation of the area is currently being prepared.

3.3 PROJECT OBJECTIVES

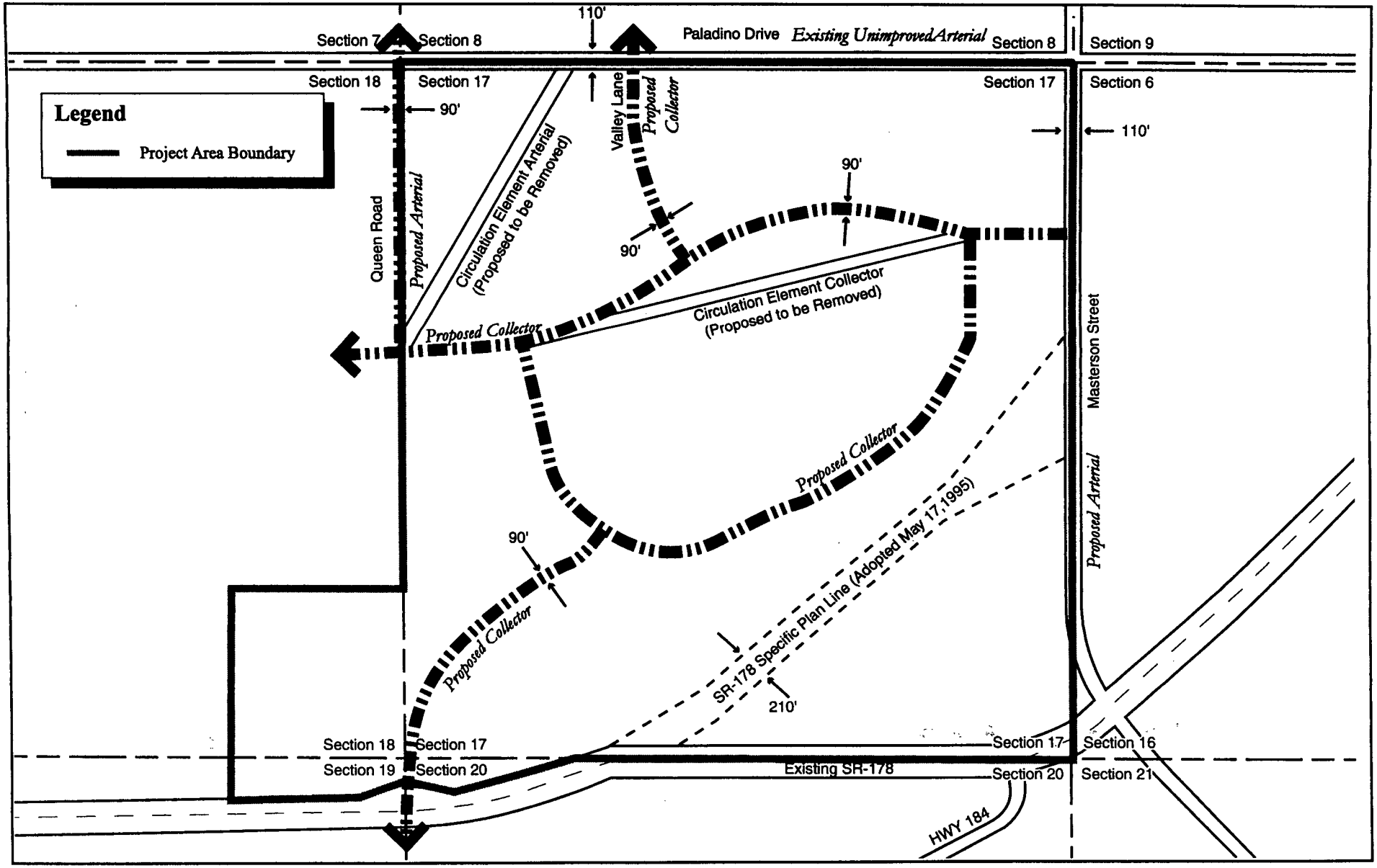
The following are the development objectives for the proposed project.

- Provide a residential and commercial use community that includes similar uses and quantity of uses as currently identified in the Metropolitan Bakersfield 2010 General Plan Land Use Element for the project site.
- Provide a mixed use residential community that includes at least 4,000 units with an average density of less than 7.26 units per acre.
- Provide a range of housing types on the project site.
- Provide right-of-way for the future construction of the approved SR 178 Freeway and the Vineland Road interchange.
- Provide right-of-way for the future construction of the SR 178 and Masterson Street interchange.
- Provide general commercial uses adjacent to the proposed SR 178 interchanges at Vineland Road and Masterson Street.

3.4 INTENDED USE OF THIS EIR, RESPONSIBLE AGENCIES, AND APPROVALS NEEDED

The City of Bakersfield is the lead agency for the project and has discretionary authority over the primary project approvals which include the following:

- **General Plan Land Use Element Amendment** – The project applicant is required to obtain General Plan Land Use Element amendments from the City prior to approval of a zone change. Following is



SOURCE: Porter-Robertson Engineering, January 2000.

NORTH

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SCALE IN FEET

Michael Brandman Associates

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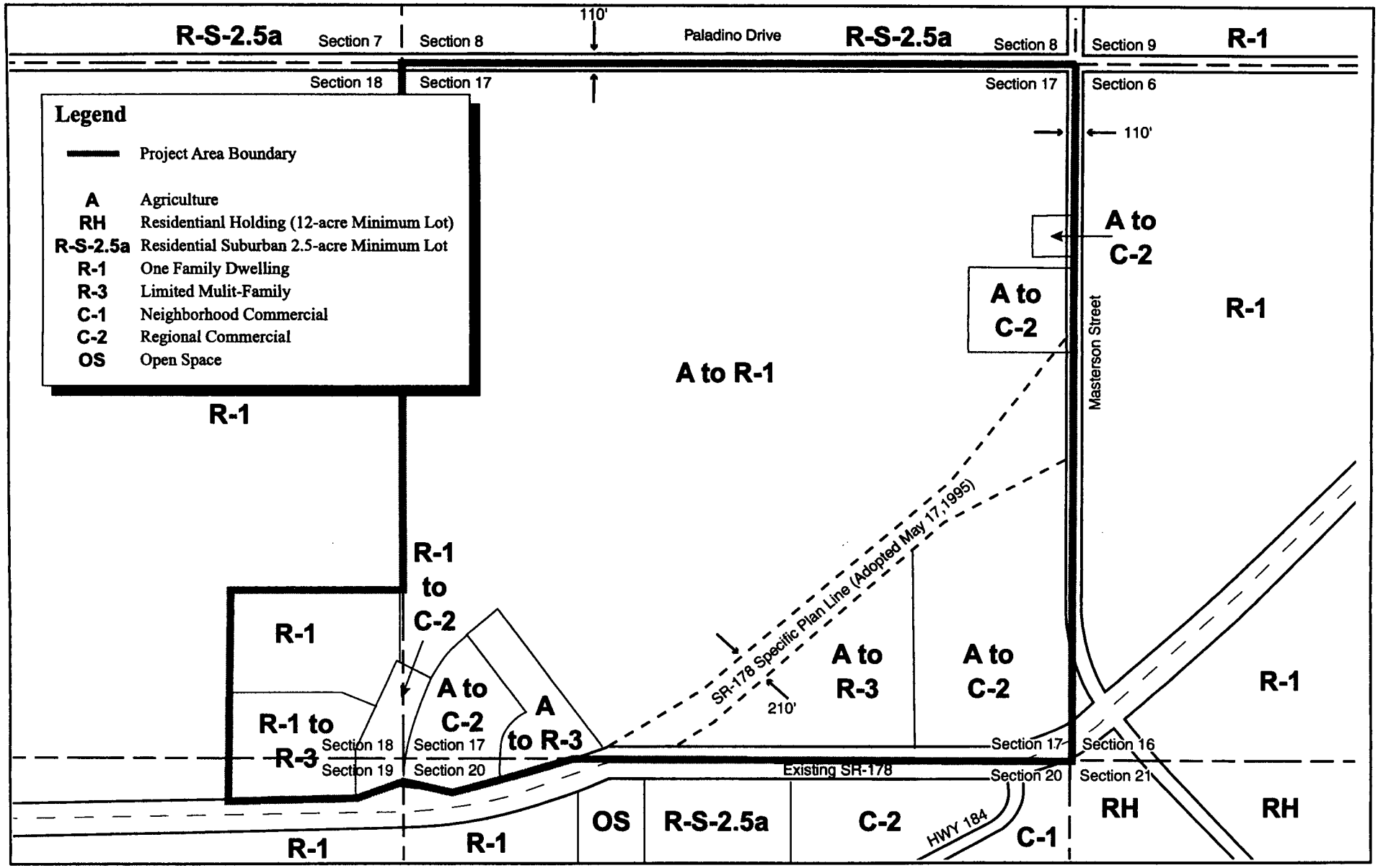
Exhibit **3-4**

Proposed Circulation Element Amendment Map

CITY OF BAKERSFIELD • CITY IN THE HILLS



SOURCE: Porter-Robertson Engineering, January 2000.

NORTH

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SCALE IN FEET

Michael Brandman Associates

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Exhibit 3-5

Proposed Zone Change

CITY OF BAKERSFIELD • CITY IN THE HILLS

a list of the required amendments:

- Approval of an amendment to redesignate 96.9 acres of land to General Commercial from Mixed Use Commercial, and Low and High Density Residential.

- Approval of an amendment to redesignate 65.5 acres of land to High Density Residential from Mixed Use Commercial and Low Density Residential.

- **General Plan Circulation Element Amendment** – The project applicant is required to obtain General Plan Circulation Element Amendments prior to approval of a zone change. Following is a list of required amendments:

  - Approval of an amendment to revise and realign the future alignment of Panorama Drive to a proposed collector from an arterial between the future alignment of Queen Street and Masterson Street.

  - Approval of an amendment to revise and realign an arterial along the Queen Street alignment between Paladino Drive and the future alignment of Panorama Drive.

  - Approval of an amendment to add a collector along the Valley Lane alignment between Paladino Drive and the future alignment of Panorama Drive.

  - Approval of an amendment to add a collector that loops within the project site and connects at both ends to the future alignment of Panorama Drive.

  - Approval of an amendment to add a collector from the proposed onsite loop road to the future SR 78 interchange at the Vineland Road alignment.

- **Zone Change** - The project applicant is required to obtain various changes to zoning designations on the project site prior to subsequent approvals. Following is a list of required zone changes.

  - Approval of a zone change from A and R-1 (Agriculture and One Family Dwelling) on 96.9 acres to C-2 (Regional Commercial).

  - Approval of a zone change from A (Agriculture) on 500 acres to R-1 (One Family Dwelling).

  - Approval of a zone change from A and R-1 (Agriculture and One Family Dwelling) on 65.5 acres to R-3 (Limited Multi Family Residential).

  - An additional 27.3 acres of land having various zoning designations are proposed for roadway infrastructure.

- **SR 78 Specific Plan Line Amendment** – The project applicant is required to obtain approval to dedicate right-of-way for an interchange at Masterson Street.

- **Plan Drainage Area for Breckridge Amendment** – The project applicant is required to obtain approval to modify the Plan Drainage Area for Breckenridge.

- **Development Agreement** - A development agreement with the City of Bakersfield is requested by the project applicant to vest development rights.

This EIR can also be reviewed/used by the City of Bakersfield for the following additional approvals.

- **Tentative Parcel, Tract Maps and Master Plans** - Individual tentative parcel or tract maps and master plans may also be processed at a future time for smaller parcels having particular development characteristics or needs.

- **Conditional Use Permits** - Approval of future uses, which are conditionally permitted under the proposed zoning, is subject to review and approval of the City.

- **Grading Permits** - Future grading for development of the project site will be subject to the review and approval of grading permits by the City.

- **Building Permits** - Future construction of structures on the project site will be subject to the review and approval of building permits by the City.

In addition to the project approvals required by the City of Bakersfield, the California Department of Fish and Game may be considered a responsible and trustee agency for the proposed project.

- **Section 1603 Streambed Alteration Agreement** - The project may require a California Department of Fish and Game Streambed Alteration Agreement pursuant to Section 1603 of the California Department of Fish and Game Code associated with the disturbance of wildlife habitats. A written agreement is required prior to allowing development that may threaten, harm, or destroy existing wildlife habitats areas of jurisdiction.

- **Section 404 of the Clean Water Act** – The project may require a U.S. Army Corps of Engineers (USACE) Section 404 permit because more than 1 acre of an area that is classified as "waters of the United States" may be developed. The USACE has jurisdiction over developments in or affecting waters of the United States. A USACE permit is required prior to discharging any dredge or fill material into United States water, pursuant to Section 4040 of the Clean Water Act.

- **Section 401 Water Quality Certification** – State of California, Regional Water Quality Control Board Santa Ana Region. Pursuant to the Federal Clean Water Act (Section 402[g]) and State General Construction Activity Storm Water Permit, a National Pollution Discharge Elimination System Permit (NPDES) would be required for the project because construction activities would result in the disturbance of more than 5 acres. Pursuant to Section 401(a)(1) of the Clean Water Act, a Section 401 water quality certification or waiver would be required for the project before any Federal permit can be issued.

SECTION 4
GENERAL DESCRIPTION OF ENVIRONMENTAL SETTING

4.1 OVERVIEW OF ENVIRONMENTAL SETTING

The project site is located in the northeast portion of the City of Bakersfield in the County of Kern, California. The approximately 694-acre site is situated between SR 178, Masterson Street, Paladino Drive, and the undeveloped northerly portion of Vineland Road and Queen Street (one mile east of Morning Drive). The site is vacant and contains primarily non-native grassland vegetation. The project site is characterized by relatively flat terrain that has an elevation of 754 feet in the northeast portion of the site and an elevation of 690 feet in the southwest portion of the site.

The surrounding areas can also be primarily characterized as undeveloped open space with non-native grassland vegetation. North of the project site, there are a few large-lot residences and further north there are rolling hills that include Ant Hill. Ant Hill extends to the highest elevation (960 feet) in the northeast Bakersfield area. West of the project site, there are some oil facilities east of Morning Drive and residences, church, and schools are located west of Morning Drive. South of the project site is a gas station and the Mesa Marin Raceway. East of the site includes non-native grassland immediately adjacent to the site and low-density residential uses further east of the site. The Rio Bravo Airport which is a private airport is located approximately one mile southeast of the site. The airport includes some daytime use and no nighttime use.

4.2 RELATED PROJECTS

Section 15310 of the CEQA Guidelines requires that the EIR discuss cumulative impacts of a project when the incremental effects of a project are cumulatively considerable. Cumulative impacts are defined as an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. Cumulatively considerable means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. According to the CEQA Guidelines, elements considered necessary to provide an adequate discussion of cumulative impacts of a project include either: (1) list of past, present, and probable future projects producing related or cumulative impacts; or (2) a summary of projection contained in an adopted General Plan or related planning document which is designed to evaluate regional or areawide conditions.

The cumulative analysis discussed in Section 5 varies depending on the environmental component that is analyzed. The cumulative analysis for Sections 5.1 (Land Use and Planning), 5.2 (Biological Resources), 5.6 (Cultural Resources), 5.7 (Hazardous Materials Compliance, 5.8 (Public Services and Utilities, and 5.9

(Aesthetics) was based on buildout of the General Plan designations in the Metropolitan Bakersfield 2010 General Plan and major development projects that have been approved or are currently being processed in the Metropolitan Bakersfield area since the adoption of the General Plan. The General Plan encompasses an area of 408 square miles in Kern County, including the City and within the City's sphere of influence. Based on the Metropolitan Bakersfield 2010 General Plan, the buildout of the City and County General Plans within the City's sphere of influence since 1985 would result in an increase in population and dwelling units by 65,712 and 23,845, respectively. Buildout of the non-residential land uses would result in an increase of approximately 1,490 acres of commercial uses, approximately 1,870 acres of industrial uses, and approximately 1,040 acres of schools and public facilities.

The cumulative analysis for Sections 5.3 (Traffic and Circulation), 5.4 (Noise), and 5.5 (Air Quality) assume development in accordance with an annual growth rate for the northeast Bakersfield area. Based on input from the City of Bakersfield, the growth rate used for this area is 3 percent per year.

SECTION 5
EXISTING CONDITIONS, PROJECT IMPACTS, CUMULATIVE IMPACTS, MITIGATION MEASURES, AND LEVEL OF SIGNIFICANCE AFTER MITIGATION

5.1 LAND USE AND PLANNING

Information in this section is based on site surveys conducted by Michael Brandman Associates (MBA) in January 2000. MBA also utilized ground and aerial photographs from the onsite and surrounding land use analysis, as well as the following reference documents:

- Metropolitan Bakersfield 2010 General Plan (March 1990);
- Final Environmental Impact Report (EIR) for the Metropolitan Bakersfield 2010 General Plan (September 1989);
- Zoning Ordinance – Bakersfield Municipal Code, Title 17 (December 1999)

The purpose of this section is to identify the existing land use conditions on and surrounding the project site, analyze the project's compatibility with existing onsite and surrounding land uses, and to evaluate the project's consistency with relevant plans and policies.

5.1.1 EXISTING CONDITIONS

Onsite Land Uses

The project area encompasses a total of 694 acres in an area that is generally identified as the rural northeast as defined by the Metropolitan Bakersfield 2010 General Plan. The project site is characterized by relatively flat terrain that has an elevation of 754 feet in the northeast portion of the site and an elevation of 690 feet in the southwest portion of the site. The primary vegetation on the project site is non-native grassland (see Exhibit 5.1-1).

Surrounding Land Uses

The area surrounding the project site is primarily undeveloped, includes non-native grassland, and has a few large lot residences (See Exhibit 5.1-1). North of the project site, there are a few large-lot residences and further north there are rolling hills that include Ant Hill. Ant Hill extends to the highest elevation (960 feet) in the northeast Bakersfield area. West of the project site, there are some oil facilities east of Morning Drive and residences, church, and school are located west of Morning Drive. South of the project site is

a gas station and the Mesa Marin Raceway. East of the site includes non-native grassland immediately adjacent to the site and low-density residential uses further east of the site. The Rio Bravo Airport which is a private airport is located approximately one mile southeast of the site. According to the Federal Aviation Administration's facility directory dated June 15, 2000, the Rio Bravo Airport is closed and its runway is in need of repair (J. Cavanaugh, pers. comm., 2000).

Related Planning Programs

Several local and regional plans and programs apply or are related to the development of the project area. Among the plans and programs are elements within the City's 2010 Metropolitan Bakersfield General Plan and the Habitat Conservation Plan. These plans are incorporated by reference into this document. The following is a discussion of those plans and policies that apply or are related to the development of the project area.

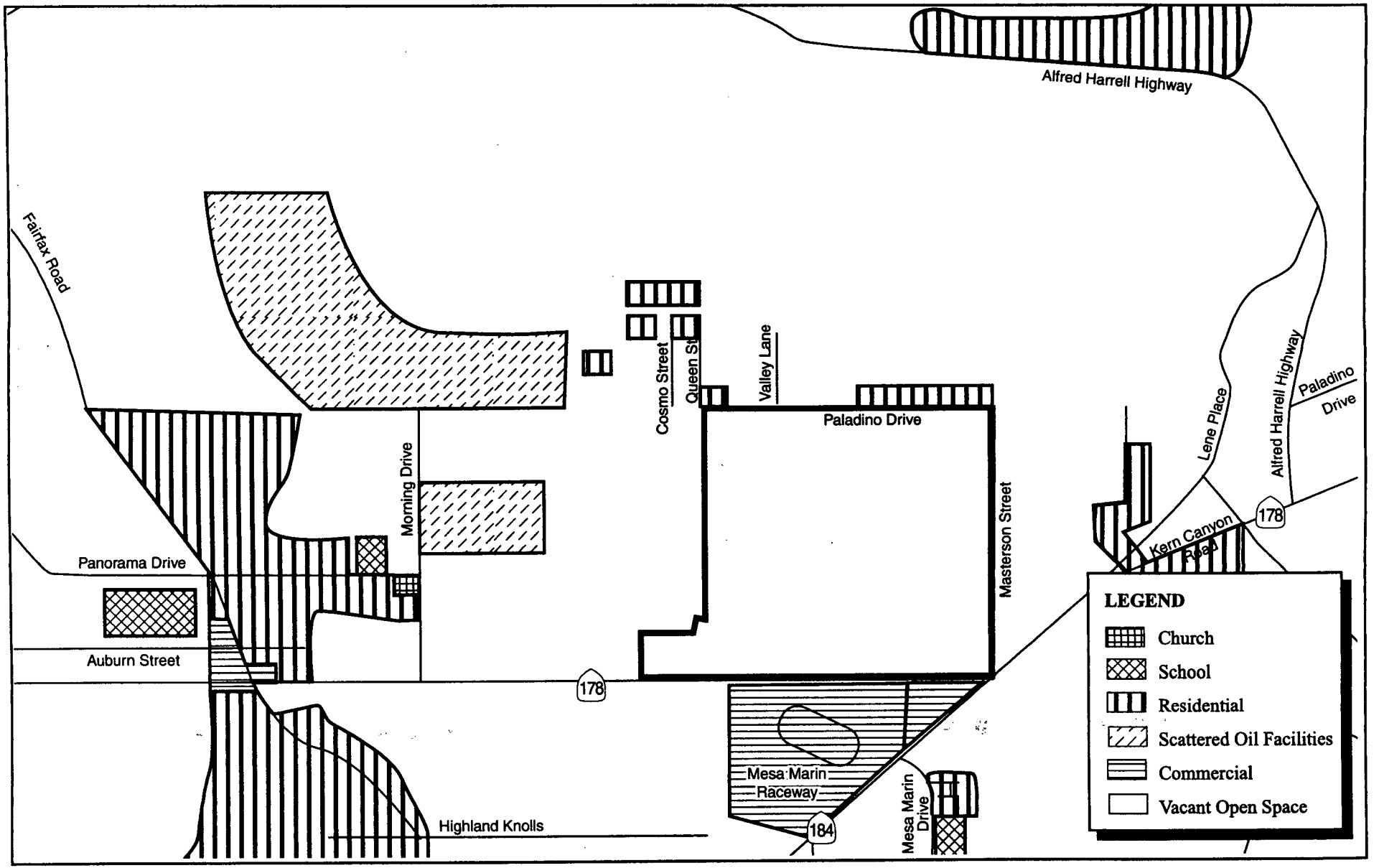
Metropolitan Bakersfield 2010 General Plan

The Metropolitan Bakersfield 2010 General Plan encompasses an area of 408 square miles in Kern County, including the City of Bakersfield. The plan is a policy document designed to give long-range guidance to those making decisions affecting the character and future land uses in the Metropolitan Bakersfield Planning Area. It represents the official statement of the community's physical development, as well as its economic, social, and environmental growth. The Plan was adopted in 1990 and is routinely amended to meet City needs. The General Plan is intended to direct the City's planning processes through the year 2010.

The Metropolitan Bakersfield 2010 General Plan primarily guides development of the project site. The General Plan provides a comprehensive set of policies and guidelines for long term development in the City and the City's sphere of influence. In accordance with the California Planning and Zoning Law, General Plans must contain seven principle elements. These elements include Land Use, Housing, Circulation, Conservation, Open Space, Noise, and Safety. This section contains a discussion of land use, circulation, safety, housing, and noise.

Land Use Element

The purpose of the Land Use Element is to provide for the compatible mixture of land use and to minimize land use conflicts. Exhibit 3-3 shows the existing General Plan Land Use Element designations for the project site. The Land Use Element designates low-density residential, high-density residential and mixed-use commercial land uses within the project area.



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Michael Brandman Associates

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Exhibit **5.1-1**

Onsite and Surrounding Land Uses

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Goals for development as set forth in the Land Use Element include meeting mixed land use needs of the Metropolitan Bakersfield Planning Area, to be sensitive and compatible with existing land uses, to be phased orderly and coordinate with the provision of infrastructure and public improvements, to be compatible with and enhance the Planning Area's natural setting, including the Kern River and the foothills, exhibit sensitivity toward the natural environment and account for environmental hazards, and to establish distinct entries to the Planning Area.

According to the General Plan, new development in northeast Bakersfield is to include retail, commercial, professional office, moderate and high density residential, that will filter outwards to lower densities.

The Land Use Element includes the following goals that are related to the proposed project:

Goal 1: Accommodate new development which captures the economic demands generated by the marketplace and established Bakersfield's role as the capital of the southern San Joaquin Valley.

Goal 2: Accommodate new development, which provides a full mix of uses to support its population.

Goal 3: Accommodate new development, which is compatible with, and complements existing land uses.

Goal 4: Accommodate new development which channels land uses in a phased, orderly manner and is coordinated with the provision of infrastructure and public improvements.

Circulation Element

The Circulation Element of the General Plan describes existing and proposed thoroughfares, transportation routes, terminals and facilities, all coordinated with the land use element of the plan. Existing circulation system conditions are discussed in greater detail in Section 5.3, Transportation and Circulation, of this EIR. The Circulation Element designates improvements to the Planning Area's circulation system. Moreover, in relation to the proposed project, the Circulation Element establishes as policy to provide a street system which contributes to the area's quality of life, networks logically within residential and commercial areas, and provides a positive image of the City, and supports plans that minimize traffic congestion. In particular, the Circulation Element sets forth the goal to have a safe and efficient street system linking all parts of the Planning Area.

The Circulation Element includes the following goals that are related to the proposed project:

Goal 1: Provide a safe and efficient street system that links all parts of the Planning Area for movement of people and goods.

Goal 2: Provide for a safe and efficient motorized, non-motorized, and pedestrian traffic movement.

Goal 4: Provide a street system that creates a positive image of Bakersfield and contributes to residents' quality of life.

Bikeway Sub-Element

Bicycling accounts for a small portion of total miles traveled in Bakersfield (less than 2 percent). Nevertheless, the relatively flat terrain and fair weather are conducive to bicycling for transportation to work, recreation, and school. It is estimated that one-third the population utilizes bicycling in one form or another. Part of the planned bikeway systems as been implemented. A planned 3.7-mile bike path is planned north and west of the project site to connect two existing bike facilities.

Bikeway goals relevant to the proposed project include:

Goal 1: Provide a circulation system which recognizes and respond to the needs of bicycle travel.

Goal 2: Provide a circulation system that minimizes cyclist/motorist conflicts.

Housing Element

The Housing Element was designed to expand upon the original goals set forth in the 1984 General Plan update which were to increase the housing supply through preventing financial impediments resulting from market conditions. These goals addressed housing supply through the maintenance of adequate sites with land use designations and zoning to support the construction of a variety of housing types. Overall, the Housing Element recognizes the impact of land use and zoning decisions on housing opportunities.

The Housing Element currently includes one goal and the goal is relevant to the proposed project:

Goal 1: To provide and adequate supply of sites for the development of sound, affordable new housing.

Conservation Element

The Conservation Element of the General Plan provides long-term guidance for the conservation of biological resources, mineral resources, agricultural resources, water resources, and air quality resources.

The Conservation Element includes the following goals that are related to the proposed project:

Biological Resources

Goal 1: Conserve and enhance Bakersfield's biological resources in a manner which facilitates orderly development and reflects the sensitivities and constraints of these resources.

Goal 2: To conserve and enhance habitat areas for designated "sensitive" animal and plant species.

Mineral Resources

Goal 3: Avoid conflicts between the productive use of mineral and energy resource lands and urban growth.

Agricultural Resources

Goal 3 Establish urban development patterns and practices that promote soil conservation and that protect areas of agricultural production of food and fiber crops, and nursery products.

Water Resources

Goal 1: Conserve and augment the water resources of the planning area.

Air Quality Resources

Goal 1: Promote air quality that is compatible with health, well being, and enjoyment of life by controlling point sources and minimizing vehicular trips to reduce air pollutants.

Goal 3: Reduce the amount of vehicular emissions in the planning area.

Noise Element

The purpose of the Noise Element is to provide a means for protecting local citizens from the harmful effects of excessive exposure to noise. The Noise Element policies encourage noise reduction from all sources, mobile and stationary. In general, the goals sets forth in the Noise Element are to ensure that residents are protected from excessive noise levels, moderate noise levels are maintained, and to prevent the interface of incompatible land uses near known noise producing sources. Section 5.4, Noise, of this EIR provides a detailed discussion of noise as it relates to the proposed project.

The Noise Element includes the following relevant goal to the proposed project:

Goal 1: Ensure that residents of the Bakersfield metropolitan area are protected from excessive noise and existing moderate levels of noise are maintained.

Safety Element

The primary intent of the Safety Element is to identify and appraise the risks associated with fire, geologic, seismic, and seismically induced hazards in order to protect populations from unreasonable risks associated with these disasters. Ultimately this element serves as the guiding document in reducing risk to life, property, and society.

Public Sub-Element

Goal 1: Ensure that the Bakersfield metropolitan area maintains a high level of public safety for its citizenry.

City of Bakersfield Zoning Ordinance

As shown on Exhibit 3-5 in Section 3.2, the project site is primarily zoned as A (Agricultural) and approximately 44 acres of the 694-acre site are zoned as R-1 (Single Family Dwelling). The Agricultural Zone is intended to support agricultural and related light agricultural industries and the Single-Family Dwelling Zone is intended to support single-family detached housing, typically characterized by tract housing.

Regional Planning Programs

Air Quality Attainment Plan

The Air Quality Attainment Plan (AQAP) has been prepared for the San Joaquin Valley Air Basin and calls for the overall reduction in air quality emissions in the valley in order to comply with California ambient air quality standards for ozone and carbon monoxide. A number of stationary and mobile source emission control recommendations and regulations have been developed by the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) to implement the AQAP. Section 5.5, Air Quality, of this EIR provides additional information in regards to this plan and its relevancy to the project.

Regional Transportation Plan

The RTP for Kern County identifies future transportation improvements needed to serve the project transportation needs of the County. The RTP details the existing transportation systems, sets goals, policies, and projects, and identifies funding mechanisms for these projects. Transportation projects identified in the RTP include highway, street, and roadway projects, mass transportation, railroad, and other programs and projects related to the transportation needs of the County.

Metropolitan Bakersfield Habitat Conservation Plan

The project site is within the area covered by the Metropolitan Bakersfield Habitat Conservation Plan (MBHCP). The goal of the MBHCP is to acquire, preserve, and enhance native habitats which support endangered and sensitive species, while allowing urban development to proceed as set forth in the Metropolitan Bakersfield 2010 General Plan. The plan generally takes a broad ecosystem approach on conservation of endangered species and requires development fees to be paid as mitigation for impacts. These fees are used for the acquisition and management of lands for conservation, which are held in perpetuity. The Plan also requires impact avoidance measures. The MBHCP does not eliminate the need to consider endangered species under CEQA, but it does establish programmatic mitigation for project impacts on endangered species.

5.1.2 PROJECT IMPACTS

Implementation of the proposed project will require several discretionary actions that will result in the development of approximately 694 acres in northeast Bakersfield. Amendments to the City's Land Use Element and the Circulation Element to include the redesignation of boundary alignments and the addition of new arterial and collector street alignments within the project site, and a zone change are included as part of the project.

City in the Hills –Draft EIR

Circulation Use Element

Implementation of the proposed project would require amendments to the Circulation Element of the General Plan because the project includes redesignation and realignment of planned roadways as discussed in Section 3.4. Even though amendments to the Circulation Element are required, the implementation of the proposed project would be consistent with the goals of the Circulation Element as discussed below.

The amendments to the Circulation Element as well as implementation of internal street systems would provide essential links for the movement of people and goods and is expected to provide a safe and efficient street system for motorists, non-motorized vehicles, and pedestrians. The provision of the proposed street system is expected to contribute to the positive image of Bakersfield and contribute to the future residents' quality of life. The proposed project will result in less than significant environmental impacts.

Housing Element

Implementation of the proposed project would be consistent with the goal of the Housing Element. More specifically, development of the proposed project would provide 2,750 single family lots and 1,300 multiple family lots. This range of housing opportunities proposed on the project site would ensure the provisions of an adequate supply of sound affordable new housing units in the project area for low, moderate, and/or above moderate income families. Therefore, implementation of the proposed project would result in less than significant consistency impacts related to the Housing Element.

Conservation Element

Implementation of the proposed project would be consistent with the goals of the Conservation Element. More specifically, development of the proposed project occurs in an area primarily consisting of non-native grasslands. While the project would result in a loss of this habitat for foraging raptors, in addition to potential takes of a number of sensitive species (e.g., San Joaquin Kit fox, blunt-noised leopard lizard, burrowing owl, etc.), the location of the proposed development and the project's contribution to the MBHCP serves to conserve and enhance the City's biological resources and habitat areas designated for "sensitive" animal and plant species.

Approximately 80 acres of the western portion of the project site are located within the Kern Bluff Oil Field. The Oil Field encompasses over 3,500 acres and is located primarily west and northwest of the project site. The proposed residential and commercial uses on the 80 acres of the Kern Bluff Oil Field would not remove any existing oil production activities. Furthermore, if oil resources exist under these 80 acres, oil extraction activities could still occur offsite and access potential onsite oil resources. Development

of the proposed project would not result in conflicts with existing or potential future oil production activities.

The project site primarily consists of unirrigated grazing land and development on this parcel would not affect areas of agricultural production for food and fiber crops or nursery products. Therefore, the proposed project would be consistent with the agricultural resources goal within the Conservation Element.

The proposed project is expected to be consistent with the water resources goal in the Conservation Element because the proposed residential and commercial uses are not expected to result in the wasteful use of water resources.

The proposed project includes a mix of land uses that would result in approximately 15 percent of the project trips (9,146 daily trips) to remain on the project site. The reduction of the amount of trips leaving the project site would minimize vehicular trip length and reduce vehicular emissions within the Bakersfield area. Furthermore, the proposed project would result in less residential and commercial uses compared to the currently allowed uses under the existing General Plan land use designations, as discussed in Section 7.2. Implementation of the proposed project is considered consistent with the air quality goals in the Conservation Element.

Noise Element

Implementation of the proposed project would not be consistent with the Noise Element. The project includes residences in an area that would expose residents to noise levels that exceed the City's noise performance standard. Periodic noise from the Mesa Marin Raceway would result in significant unavoidable noise impacts on residences that are proposed on the southern half of the project site.

Safety Element

The proposed project would introduce new structures within the project area that would be susceptible to earthquake and earthquake related hazards. However, compliance with building and safety codes and regulations would assure consistency with the General Plan. Additionally, new arterial and collector streets would allow for greater and improved access to the project site, thereby improving fire safety.

City of Bakersfield Zoning Ordinance

Exhibit 3-5 presents the proposed land use changes to the Zoning Map. The zone changes have been requested to bring the zoning land use designation into conformance with the proposed General Plan land use changes. The land uses that are proposed are similar to the uses that are currently planned for the project site. Both the proposed project and planned land uses for the site include low and high density residential uses, commercial uses, and right of way area for the realignment of SR 178. The proposed

project would not represent a significant alteration to the land uses that are zoned for the site. Therefore, no significant impact to the zoning designations on the project site would occur.

Regional Planning Programs

Air Quality Attainment Plan

The project includes an amendment to the General Plan land use designations to allow more commercial and high-density residential uses in areas planned for low-density residential uses. However, as described in Section 7.2, the existing land use designations would allow more residential units and commercial square footage compared to the proposed project. The employment generated by the project and trips associated with the proposed land uses could be assumed to have been originally included in the Metropolitan Bakersfield 2010 General Plan. Moreover, this project could also have been anticipated in the SJVUAPCD AQAP. Therefore, the project would be consistent and would not be considered a significant project impact. Section 5.5, Air Quality, of this EIR provides a more detailed discussion of the project's consistency with this plan.

Regional Transportation Plan

Implementation of the proposed project would involve the construction of roadway improvements such as the installation of traffic signals and the widening or roadway segment and/or intersections on a fair-share basis. These improvements are consistent with the policies or planned projects of the RTP (see Section 5.3, Traffic and Circulation). Therefore, implementation of the proposed project would have no impact on the RTP.

Metropolitan Bakersfield Habitat Conservation Plan

The project site is located outside the habitat preserve areas designated in the MBHCP. Under the MBHCP, the development of the site would require the payment of mitigation fees for the acquisition of natural habitat areas in Kern County (see Section 5.2, Biological Resources). Implementation of the project would result in the payment of these fees. Therefore, implementation of the City in the Hills project would be consistent with the MBHCP and less than significant impacts would occur.

5.1.3 CUMULATIVE IMPACTS

Development of the proposed project and future growth in accordance with the General Plan would represent an increase level of development and intensification in the northeast Bakersfield area. Each project is subject to separate environmental review by City staff for conformance with applicable

development regulations to minimize the direct impacts of any individual project and to ensure land use compatibility. The General Plan Land Use Element has been prepared to designate areas for various land uses. Based on the General Plan designations in the project vicinity, areas designated for residential, commercial, and open space uses have been planned to allow for land use compatibility. Since specific development projects have not recently been submitted to the City for development in the project vicinity, land use compatibility impacts as well as consistency with applicable development regulations would be speculative without environmental review of each project.

5.1.4 MITIGATION MEASURES

Since the proposed project includes residential land uses in the southern portion of the project site, these residents would be exposed to significant and unavoidable noise levels from events at the Mesa Marin Raceway. These periodic noise levels would not be consistent with the City's Noise Element. No feasible mitigation measures are available for the project applicant to reduce noise levels from the Mesa Marin Raceway to less than L_{50}-55 dBA.

5.1.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Development of the proposed project would result in an incompatibility between the proposed onsite residential uses and events at the Mesa Marin Raceway. Significant unavoidable adverse noise levels would occur at residential areas on the project site as discussed in Section 5.4.

5.2 BIOLOGICAL RESOURCES

This section incorporates information contained in the Biological Resource Assessment prepared for the proposed project by Bio Resources Consulting. The complete report is contained in Appendix B of this EIR.

5.2.1 EXISTING CONDITIONS

Methodology

A list of special status species that could potentially occur in the vicinity of the project site was compiled by consulting pertinent literature, reviewing California Natural Diversity DataBase (CNDDB) (RareFind2) information regarding special status species in the area, and contacting local and regional experts.

Biological field surveys were conducted in January 2000. Transect surveys were conducted and focused on habitat evaluation and special status species detection, including San Joaquin kit fox and burrowing owl (see Exhibit 5.2-1). Plant communities and important habitat elements for special status species were noted and mapped. Plant communities were classified following the descriptions defined in Holland (1986) and Sawyer and Keeler-Wolf (1995). The classification as defined by Sawyer and Keeler-Wolf (1995) is shown in parentheses in the text.

Belt transects were walked and all observed burrows and dens were evaluated for use by special status species. Direct observations of special status species and their sign (scat, tracks, tail drags, etc.) were noted if encountered during the surveys. San Joaquin kit fox were assumed to be present in the project vicinity based on past direct observation of kit fox and presence of known kit fox dens near the project site. Known San Joaquin kit fox dens were also mapped.

General Biological Resources

Two major plant communities occur on the approximately 694-acre site: non-native grassland (California annual grassland series) and valley saltbush scrub (allscale series).

Non-native grassland community is the primary vegetation of the project site occupying approximately 684 acres. Non-native grassland is distributed throughout the site, both as a community and as an understory component to valley saltbush scrub. In the vicinity of the project site, this community is likely maintained by frequent fires. Non-native grasses dominate (bromes, foxtail, fescues, and oats), with showy annual forbs present to a varying degree depending on rainfall. Forbs which are typically present include red-stemmed filaree (*Erodium cicutarium*), owl's clover (*Castilleja exserta* and *C. attenuata*), lupines (*Lupinus* spp.),

goldfields (*Lasthenia californica*), fiddleneck, gilia, and several mustards. Cover may be sparse to dense, with annuals typically germinating in late fall and most species flowering in early to late spring. This community is widely distributed throughout California, usually below 3000 feet.

The valley saltbush scrub community occupies approximately 10 acres of the site and is typically dominated by common saltbush (*Atriplex polycarpa*). Other shrub species which may be present include spiny saltbush (*A. spinifera*), cheesebush (*Hymenoclea salsola*), and pale-leaf goldenbush (*Isocoma acradenia* var. *bracteata*). The understory typically consists of winter-germinating annuals dominated by non-native grasses such as bromes (*Bromus* spp.), wild oats (*Avena barbata* and *A. fatua*), foxtail (*Hordeum* spp.), and fescues (*Vulpia* spp.). Native spring-flowering annuals may include bird's eye gilia (*Gilia tricolor*), fiddleneck (*Amsinckia menziesii* var. *intermedia*), white layia (*Layia glandulosa*), and several species of phacelia (*Phacelia* spp.). On the project site, this community occupies a very limited area and appears to be the result of seeding along a previously disturbed pipeline right-of-way.

Sensitive Biological Resources

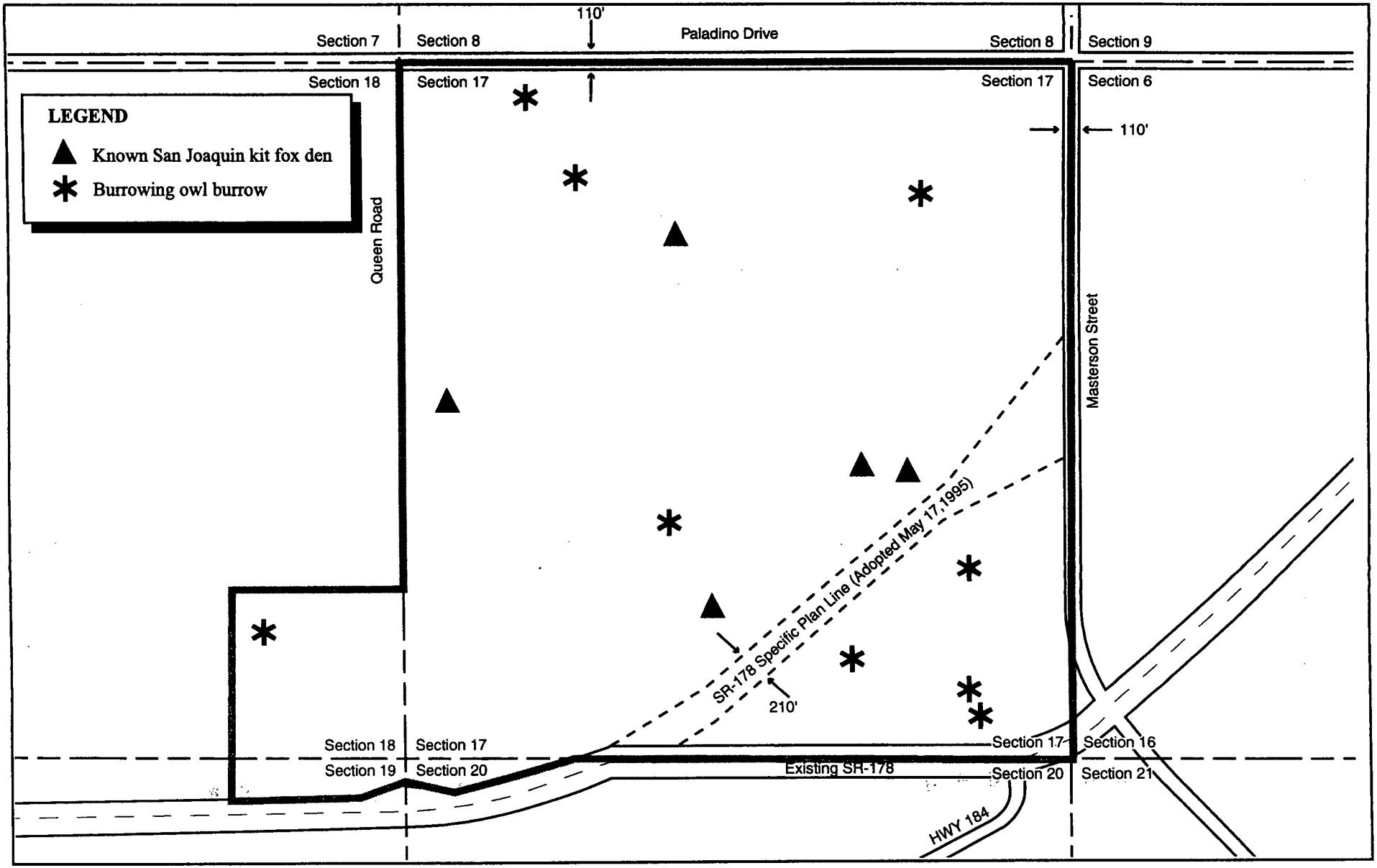
Sensitive biological resources are either special status species or sensitive habitats.

Special status species are native species that have been afforded special legal or management protection because of the concern for their continued existence. There are several different categories of protection at both federal and state levels, depending on the magnitude of threat to continued existence and existing knowledge of population levels.

A federally endangered species is one facing extinction throughout all or a significant portion of its geographic range. A federally threatened species is one likely to become endangered within the foreseeable future throughout all or a significant portion of its range. The presence of any federally threatened or endangered species in a project area generally imposes severe constraints on development, particularly if development would result in a "take" of the species or its habitat. The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. Harm in this sense can include any disturbance to habitats used by the species during any portion of its life history.

Proposed species are those officially proposed by the USFWS for addition to the federal threatened and endangered species list. Because proposed species may soon be listed as threatened or endangered, these species could become listed prior to or during implementation of a proposed project.

The State of California considers an endangered species one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is one present in such small numbers throughout its range



SOURCE: Porter-Robertson Engineering, January 2000.

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Michael Brandman Associates

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Exhibit **5.2-1**

Biological Resources

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that it is likely to become an endangered species in the near future in the absence of special protection or management, and a rare species is one present in such small numbers throughout its range that it may become endangered if its present environment worsens. Rare species only applies to California native plants. State threatened and endangered species include both plant and animal species and are fully protected against take, as defined above.

Species of Special Concern is an informal designation used by the California Department of Fish and Game (CDFG) for some declining wildlife species that are not state candidates. This designation does not provide legal protection, but signifies that these species are recognized as sensitive by CDFG.

Species that are California Fully Protected include those protected by special legislation prior to the creation of State Endangered Species Act, such as the white-tailed kite, mountain lion, and blunt-nosed leopard lizard.

As one of the agencies primarily responsible for administering and enforcing the California Endangered Species Act, CDFG exercises considerable influence over sites inhabited by state listed threatened or endangered species. CDFG is also authorized to provide comprehensive habitat management including, but not limited to, protection of endangered species through natural community conservation plans.

All raptors and their nests are protected under Section 3503.5 of the California Fish and Game Code. In addition, all native breeding birds, whether or not they are considered sensitive by resource agencies, are protected by the Migratory Bird Treaty Act.

The California Native Plant Society (CNPS) is a California resource conservation organization that has developed an inventory of California's sensitive plant species (Skinner and Pavlik 1994). This inventory is the summary of information on the distribution, rarity, and endangerment of California's vascular plants. This rare plant inventory is comprised of four lists. CNPS List 1A plant species are considered extinct in California because they have not been seen in the wild for many years. CNPS List 1B species are considered rare, threatened, or endangered throughout their range. CNPS considers List 2 plants as rare, threatened, or endangered in California, but more common in other states. Plant species on lists 1A, 1B, and 2 meet CDFG criteria for endangered, threatened, or rare listing. Plant species for which CNPS needs additional information are included on List 3. List 4 plant species are those of limited distribution in California whose susceptibility to threat appears low at this time.

Sensitive habitats are vegetation communities/associations or habitats that support concentrations of special status plant or animal species, are of relatively limited distribution, or are of particularly high value to wildlife. Jurisdictional wetlands and streams are also considered sensitive habitats. Sensitive habitats are

not afforded legal protection unless they support protected species, except for jurisdictional areas, which cannot be filled without authorization from the U.S. Army Corps of Engineers (USACE) and CDFG.

Pursuant to Section 404 of the Clean Water Act, USACE regulates the discharge of dredged and/or fill material into waters of the United States. The term "waters of the United States" is defined as: (1) all navigable waters (including all waters subject to the ebb and flow of the tide); (2) all interstate waters and wetlands; (3) all other waters, such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce; (4) all impoundments of waters mentioned above; (5) all tributaries to waters mentioned above; (6) the territorial seas; and (7) all wetlands adjacent to waters mentioned above.

Pursuant to Division 2, Chapter 6, Sections 1600-1603 of the California Fish and Game Code, CDFG regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake which supports fish or wildlife resources. There are some significant differences between USACE and CDFG jurisdictions. The CDFG uses less well defined and more ecologically based criteria in their jurisdiction determinations. For a watercourse to be considered under CDFG jurisdiction, it must have a terminus, banks, and channel through which water can flow, at least periodically. Historic court cases have further extended CDFG jurisdiction to include watercourses that seemingly disappear, but re-emerge elsewhere. Under the CDFG definition, a watercourse need not exhibit evidence of an OHWM to be claimed as jurisdiction.

Special-status species that occur or potentially occur on the project site are shown in Table 5.2-1.

Plants

Listed Special Status Plant Species

California Jewelflower

California jewelflower was not observed during the surveys; however, surveys were completed too late in the season to identify this annual. The nearest known location for California jewelflower is several miles to northeast. Although some marginally suitable habitat is present on site, frequent grass fires, discing, offroad vehicle use, oil development, and other disturbances make it unlikely that this species occurs in the project area.

Hoover's wooly star

The field surveys were not conducted at an appropriate time for observation of Hoover's wooly star. No

populations of this species are known within the vicinity of the project site and it is considered unlikely that it is present on site.

San Joaquin wooly threads

There is a historic record of the San Joaquin wooly threads approximately four miles west of the site (CDFG 2000). However, this population was last seen in 1905 and is very likely extirpated. No suitable habitat was observed during the surveys for the project, due to previous discing of the site. Although the survey was not conducted during an appropriate season for observation of this species, it is unlikely that it occurs on the site. In addition, other surveys conducted during the appropriate period in the vicinity of the site have not resulted in observation of this species.

Bakersfield Cactus

There is a small population of Bakersfield cactus less than 0.5-mile northwest of the site's northwestern corner and there is a population approximately one mile west of the site (CDFG 2000). Bakersfield cactus was not observed on site during the surveys.

Other Plant Species of Concern

Although the surveys were not conducted during an appropriate period for identification of sensitive annual plants, based on the disturbance history of the project site, it is considered unlikely that any of these species occur on site.

Wildlife

Listed Special Status Wildlife Species

Blunt-nosed leopard lizard

Species specific surveys for blunt-nosed leopard lizard were not conducted. However, suitable habitat for this species was observed throughout the project site, especially in sparsely vegetated grassland flats and along unpaved trails and roads. However, a large portion of the site consists of very dense annual grasses such as foxtail (*Hordeum leporinum*), bromes (*Bromus* spp.), and wild oats (*Avena barbata*), which are generally poor habitat for this species.

San Joaquin Antelope Squirrel

San Joaquin antelope squirrels were not observed during site surveys. Although suitable habitat is present,

it is unlikely that this species occurs on the project site. Despite extensive surveys in the vicinity of the project site, no San Joaquin antelope squirrels have been observed recently. No antelope squirrels have been observed north or east of Bakersfield since the 1970's (Williams 1986).

San Joaquin Kit Fox

Five known San Joaquin kit fox dens were observed in the Section 17 portion of the project site. Potential dens were common throughout the site, primarily within the widespread ground squirrel colonies in the survey area. Kit fox scat was observed throughout the site; therefore, it is likely that San Joaquin kit fox forage over the entire site.

Other Special Status Wildlife

Several burrowing owls and burrowing owl burrows were observed throughout the survey area. Loggerhead shrikes and a golden eagle were also observed during the survey. No other special status species were directly observed onsite during the surveys. No diagnostic kangaroo rat sign (scat, tracks, tail drags, burrows) was observed.

TABLE 5.2-1
SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING ON THE PROJECT SITE

SPECIES	USFWS	CDFG	CNPS	HABITAT	POTENTIAL FOR OCCURRENCE ONSITE
PLANTS					
California jewelflower *Caulanthus californicus*	FE	CE	1B	Saltbush scrub	Unlikely to occur, low value habitat on site
Bakersfield cactus *Opuntia basilaris* var. *treleasei*	FE	EC	1B	Mesas and washes with sandy soils	Does not occur on site
gypsum-loving larkspur *Delphinium gypsophilum* ssp. *gypsophilum*	--	--	4	saltbush scrub and grasslands of low foothills, especially north-facing slopes	Unlikely to occur, low value habitat on site
cottony buckwheat *Eriogonum gossypinum*	--	--	4	Open slopes, especially south-facing	Unlikely to occur, low value habitat on site
Hoover's Wooly Star *Eriastrum hooveri*	FT	--	4	Open, sparsely vegetated areas in saltbush scrub and grassland	Unlikely to occur, low value habitat on site

TABLE 5.2-1
SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING ON THE PROJECT SITE
(CONTINUED)

SPECIES	USFWS	CDFG	CNPS	HABITAT	POTENTIAL FOR OCCURRENCE ONSITE
PLANTS					
San Joaquin Wooly-threads *Lembertia congdonii*	FE	--	1B	Grassland, primarily sandy soils	Unlikely to occur, low value habitat on site
Oil Neststraw *Stylocline citroleum*	--	--	1B	Saltbush scrub	Unlikely to occur, low value habitat on site
MAMMALS					
San Joaquin Antelope Squirrel *Ammospermophilus nelsoni*	--	CT	--	Shrublands, especially along washes	Unlikely to occur on site
American badger *Taxidea taxus*	--	CSC	--	Grasslands and shrublands	May occur, suitable habitat on site
San Joaquin pocket mouse *Perognathus inornatus inornatus*	--	CSC	--	saltbush scrub and grassland	May occur, suitable burrows on site
San Joaquin Kit Fox *Vulpes macrotis mutica*	FE	CT	--	grasslands saltbush scrub	Occurs on site
Short-nosed Kangaroo Rat *Dipodomys nitratoides brevinasus*	FSC	CSC	--	saltbush scrub and other low foothill habitats	Unlikely to occur on site
BIRDS					
Northern Harrier *Circus cyaneus*	--	CSC	--	marshlands and grasslands	Unlikely to occur on site
prairie falcon *Falco mexicanus*	--	CSC	--	open grassland areas, nests in cliff faces or on ledges	Unlikely to occur on site
Lanius ludovicianus Loggerhead shrike	FSC	CSC	--	scrub and adjacent grassland habitats, may nest in riparian woodland	Forages on site
golden eagle *Aquila chrysaetos*	BEPA	CSC	--	open grasslands and low foothills	Forages on site
sharp-shinned hawk *Accipiter striatus*	--	CSC	--	riparian areas	Unlikely to occur on site

TABLE 5.2-1
SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING ON THE PROJECT SITE
CONTINUED)

SPECIES	USFWS	CDFG	CNPS	HABITAT	POTENTIAL FOR OCCURRENCE ONSITE
BIRDS					
Cooper's Hawk *Accipiter cooperii*	--	CSC	--	Open woodlands, riparian woodlands	Unlikely to occur on site
Burrowing Owl *Speotyto cunicularia*	--	CSC	--	Valley grasslands, open saltbush scrub	Occurs on site
LeConte's thrasher *Toxostoma lecontei*	--	CSC	--	mature saltbush scrub for nesting	Unlikely to occur on site
REPTILES					
Blunt-Nosed Leopard Lizard *Gambelia silus*	FE	CE	--	Open saltbush scrub and grassland habitats, roads and open washes	Unlikely to occur, poor habitat on site
California Horned Lizard *Phrynosoma coronatum*	FSC	CSC	--	Open shrublands and grasslands with sandy soils	Poor habitat on site
INVERTEBRATES					
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus*	FT	--	--	riparian woodlands	Unlikely; no suitable habitat onsite.

U.S. Fish and Wildlife Service USFWS Federal Listing Categories:
- FE Federal Endangered [a]
- FT Federal Threatened [a]
- FSC Federal Species Concern
- BEPA Bald Eagle Protection Act

California Department of Fish and Game CDFG State Listing Categories:
- CE California Endangered [b]
- CT California Threatened [b]
- CSC California Species of Special Concern

California Native Plant Society (CNPS) Categories: [c]
- 1B Plants rare, threatened, or endangered in California and elsewhere.
- 4 Watch List

[a] Protected under the Federal Endangered Species Act.
[b] Protected under the California Endangered Species Act.
[c] The CNPS is a private non-profit organization that works closely with CDFG throughout the state. CNPS-developed information serves as an important source of data for consideration by CDFG and USFWS in recommendations for listing of State or Federal threatened and endangered species.

Source: Bio Resources Consulting, February 2000.

Sensitive Habitats

A jurisdictional delineation to determine whether areas of the site fall under the jurisdiction of USACE or CDFG has not been conducted. There are two unnamed blueline streams on the project site that are primarily dry, with storm events being the primary time that flow. Surface water during these events typically dries quickly or percolates prior to any flow reaching any permanent water source.

5.2.2 PROJECT IMPACTS

Thresholds of Significance

Significant impacts that could occur were determined from criteria in the (CEQA) Guidelines. Impacts to biological resources could be significant if the project will:

- substantially affect a rare or endangered species of plant or animal or the habitat of such species;
- interfere substantially with the movement of any resident or migratory fish or wildlife species; or
- substantially diminish habitat for fish, wildlife, or plants;
- substantially degrade the quality of the environment;
- cause a fish or wildlife species to drop below self-sustaining levels;
- threaten to eliminate a plant or animal community;
- reduce the number or restrict the range of a rare or endangered plant or animal; or
- conflict with local, state, or federal resource conservation plans, goals, or regulations.

Impacts

Loss of Habitat

Implementation of the proposed project would eliminate approximately 684 acres of non-native grassland habitat and approximately 10 acres of valley saltbush scrub. Although much of this habitat has been disced or otherwise disturbed, these areas provide suitable habitat for a wide variety of plant and wildlife species. Development of the proposed project would eliminate suitable foraging habitat for raptors, in addition to reducing or eliminating some plant and wildlife populations on the site. However, non-native grassland habitat is regionally abundant. Therefore, this impact is not considered significant.

Special-Status Species

The site provides suitable habitat for a number of special-status wildlife species. Direct take of San Joaquin kit fox, blunt-nosed leopard lizard, and burrowing owl, could possibly occur during grading of the

approximately 694-acre site. There would be a loss of foraging habitat for loggerhead shrike, golden eagle and other raptors. Vehicular collisions could also result in the direct take of special-status wildlife species. Because these species are protected by state and federal law, impacts on special-status wildlife species would be considered significant.

Raptor Nest Disturbance

Implementation of the proposed project may disturb active burrowing owl nests. Nests of other raptors are not expected to be impacted. All active raptor nests are legally protected under the California Department of Fish and Game Code 3503.5. Raptors are predatory birds such as falcons, hawks, and owls. Disturbance of an active raptor nest would be considered a significant impact of the project.

Sensitive Habitats/Jurisdictional Areas

Portions of the two onsite unnamed blueline streams may fall under the jurisdiction of USACE and/or CDFG. If areas on the project site fall under the jurisdiction of USACE or CDFG impacts to these areas would be considered significant.

Indirect Impacts

Following project buildout, increased vehicular traffic, noise, pollutants, and other indirect impacts are expected to adversely affect local wildlife. Wildlife mortality could occur from collisions with motor vehicle traffic. Depredation on native wildlife by dogs and cats is expected to increase. Human related impacts on wildlife such as disturbance of active nests or dens, are also expected to increase. These impacts, while adverse, would not be expected to reduce any existing wildlife populations below self-sustaining levels and are not expected to substantially or significantly affect wildlife habitat outside of the project site.

The introduction of non-native invasive plant species could occur due to project implementation. These species could adversely affect off-site habitats. Depending upon the plant species and the extent of their introduction this could be significant.

5.2.3 CUMULATIVE IMPACTS

Implementation of the proposed project, in conjunction with future developments associated with General Plan buildout would contribute to the ongoing loss of open space in the region, resulting in a decline of biological resources and species diversity. Cumulative development would also result in increase traffic and human use of the project vicinity, which would increase human intrusion and activity levels in

proximity to habitat areas and wildlife use areas and, therefore, further reduce the quantity and quality of wildlife habitat. This would be a significant impact. However, cumulative impacts to biological resources would be mitigated on a project-by-project basis, as with the proposed project.

5.2.4 MITIGATION MEASURES

The project site is within the area covered by the Metropolitan Bakersfield Habitat Conservation Plan (MBHCP). The goal of the MBHCP is to acquire, preserve, and enhance native habitats which support endangered and sensitive species, while allowing urban development to proceed as set forth in the Metropolitan Bakersfield 2010 General Plan. The plan generally takes a broad ecosystem approach on conservation of endangered species and requires development fees to be paid as mitigation for impacts. These fees are used for the acquisition and management of lands for conservation which are held in perpetuity. The Plan also requires impact avoidance measures. The MBHCP does not eliminate the need to consider endangered species under CEQA, but it does establish programmatic mitigation for project impacts on endangered species.

Mitigations for impacts to special-status species on the site are covered by meeting the compensation and avoidance requirements of the MBHCP and associated Implementing Agreement. These are described below.

Special-status Species

BR-1 Prior to the issuance of a grading permit, the project applicant shall pay a development fee in accordance with the MBHCP.

BR-2 Prior to the issuance of a grading permit on the 694-acre site, the project proponent shall comply with all appropriate terms and conditions of the MBHCP. The MBHCP requires certain take avoidance measures for the San Joaquin kit fox. MBHCP guidelines regarding tracking and excavation shall be followed to prevent entrapment of kit fox in dens. Specific measures during the construction phase of the project shall be implemented and include the following:

a) A preconstruction survey shall be conducted prior to site grading to search for active kit fox dens. The survey shall be conducted not more than 30 days prior to the onset of construction activities in areas subject to development to determine the necessity of den excavation.

b) Monitoring and excavation of each known San Joaquin kit fox den which cannot be avoided by construction activities shall occur.

c) Notification of wildlife agencies of relocation opportunity prior to ground disturbance in areas of known kit fox dens shall be provided.

d) Excavations shall either be constructed with escape ramps or covered to prevent kit fox entrapment. All trenches or steep-walled excavations greater than three feet deep shall include escape ramps to allow wildlife to escape. Each excavation shall contain at least one ramp, with long trenches containing at least one ramp every 1/4 mile. Slope of ramps shall be no steeper than 1:1.

e) All pipes, culverts or similar structures with a diameter of four inches or greater shall be kept capped to prevent entry of kit fox. If they are not capped or otherwise covered, they will be inspected prior to burial or closure to ensure no kit foxes, or other protected species, become entrapped.

f) All employees, contractors, or other persons involved in the construction of the project shall attend a "tailgate" session informing them of the biological resource protection measures that will be implemented for the project. The orientation shall be conducted by a qualified biologist and shall include information regarding the life history of the protected species, reasons for special status, a summary of applicable environmental law, and measures intended to reduce impacts.

g) All food, garbage, and plastic shall be disposed of in closed containers and regularly removed from the site to minimize attracting kit fox or other animals.

BR-3 Because "take" of blunt-nosed leopard lizards is also currently prohibited by Section 5050 of the California Fish and Game Code, additional mitigations are necessary in addition to those required by the MBHCP. The following measures are recommended to comply with this Section 5050:

a) Surveys for blunt-nosed leopard lizards shall be conducted following CDFG protocols. These surveys should be conducted between April 15 and June 30 under the specified time and temperature conditions. This survey is necessary to determine the current status of blunt-nosed leopard lizards on the project site.

b) If blunt-nosed leopard lizards are detected, the applicant shall submit methods for compliance with Fish and Game Code Section 5050 to CDFG for review and approval.

Mitigations for impacts to special-status species on the site are covered under the terms and conditions of the MBHCP and associated Implementing Agreement. The compensation and avoidance requirements of the MBHCP are consistent and follow an ecosystem management approach for endangered species, and provide adequate compensation for covered species and all other potentially occurring special-status species.

Impacts to special status species that are not included in the MBHCP would be mitigated by the actions taken to meet the requirements of the MBHCP. No additional mitigations are recommended for special status species that are not included in the MBHCP.

Raptor Nest Disturbance

BR-4 Prior to the issuance of a grading permit for the approximately 694-acre site, the project applicant shall comply with the following raptor nest mitigation:

a) If site grading is proposed during the raptor nesting season (February-September), a focused survey for raptor nests shall be conducted by a qualified raptor biologist prior to grading activities in order to identify active nests in areas potentially impacted by project implementation.

b) If construction is proposed to take place during the raptor nesting/breeding season (February - September), no construction activity shall take place within 500 feet of an active nest until the young have fledged (as determined by a qualified raptor biologist). Any nests that must be removed as a result of project implementation shall be removed during the non-breeding season (October-January).

c) Preconstruction surveys shall include a survey for burrowing owl. If active burrowing owl burrows are detected outside of breeding season (September 1 through January 31), passive and/or active relocation efforts may be undertaken if approved by CDFG and USFWS. If active burrowing owl burrows are detected during breeding season (February 1 through August 31), no disturbance to these burrows shall occur without obtaining appropriate permitting through the Migratory Bird Treaty Act.

Sensitive Habitats/Jurisdictional Areas

BR-5 A formal jurisdictional delineation will be conducted. If project development would impact jurisdictional areas, a Clean Water Act Section 404 permit from USACE and/or a CDFG Section 1601 Streambed Alteration Agreement will be obtained from USACE and/or CDFG, respectively Prior to the issuance of a grading permit and/or approval of plans and specifications. USACE and CDFG typically require mitigation plans to be prepared prior to the loss of habitat within jurisdictional areas.

Indirect Impacts

BR-6 The following invasive exotic plants shall not be used in any project residential or commercial landscaping: tamarisk (all species) and pampas grass. In addition, vegetation at any ponds or water features shall be managed in a way such that none of the invasive exotic plants listed by

the Department of Agriculture allowed to become established. Typical invasive exotic plants that can become problematic in this region include: water hyacinth and pampas grass.

BR-7 During construction, site boundaries shall be clearly marked with flagging, fencing, or other suitable material to prevent construction equipment and vehicles from impacting adjacent habitat areas potentially occupied by special status species.

5.2.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION

After implementation of the above mitigation measures, project and cumulative impacts on biological resources would be less than significant.

5.3 TRAFFIC AND CIRCULATION

The analysis contained in this section is based on Traffic Impact Study prepared for the proposed project by Crenshaw Traffic Engineering in March 2000. The complete report is provided in Appendix C.

Traffic Study Area

Based on a preliminary analysis of the project's impact on the surrounding roadway circulation system, the traffic study area was defined to include all intersections and roadway segments that could potentially experience significant impacts from development of the proposed project. The traffic analysis considered both project generated traffic, as well as traffic generated outside of the project area.

The study area is displayed on Exhibit 5.3-1, and includes Paladino Drive to the north, State Route (SR) 178 to the south, Alfred Harrell Highway to the east, and Fairfax Road to the west. At the project site, Vineland Road, Queen Street, and Panorama Drive do not exist and portions of Masterson Street exist. These roadways will be developed with the implementation of the project. In the project vicinity, a network of major and secondary highways and local streets will be developed that will provide access to nearby commercial, residential, and employment centers.

Performance Criteria

A "level of service" designation is the generally accepted measure utilized for determining the quality of operation of either a roadway segment or intersection. There are a total of 6 level of service (LOS) categories ranging from LOS A, free flowing traffic to LOS F, bumper to bumper traffic.

The City of Bakersfield has established a performance criteria for intersections and roadway segments of LOS C. If the existing operational level of service of a facility is worse than LOS C prior to the implementation of a proposed project and associated traffic, the City's performance criteria is to restore the intersection or roadway segment to at least its existing operational level of service.

5.3.1 EXISTING CONDITIONS

Existing Roadway Circulation System

The following is a discussion of the roadways that will directly serve the proposed project. Future planned roadways and existing roadway improvements are described for the ultimate build-out characteristics.

State Route 178 - SR 178 is a two-lane road that extends from west of Fairfax Road to Kern Canyon Road and extends west of Alfred Harrell Highway. SR 178 is a freeway west of Fairfax Road to SR 203. East of Fairfax Road, SR 178 will be realigned and developed as a freeway with limited access under future year 2020 conditions.

Panorama Drive – Panorama Drive is currently undeveloped within the project area. This roadway will be developed as a collector on the project site and is planned as a collector west of the site.

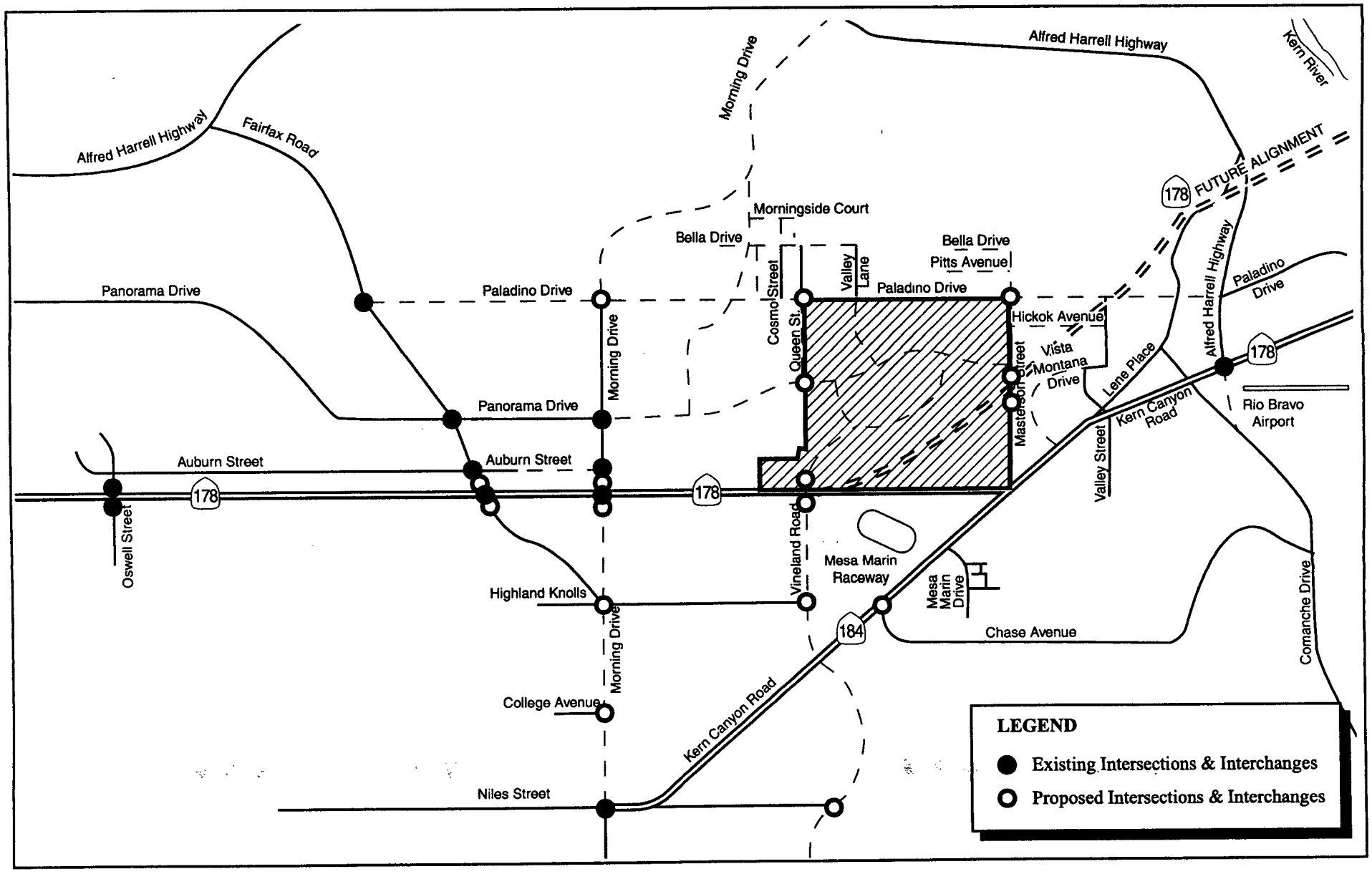
Paladino Drive – Paladino Drive is planned as an arterial within the project area. West of Masterson Street, Paladino Drive is planned to be extended to Fairfax Road as an arterial and extended east of Masterson Street as a collector. Paladino Drive is planned to be a primary east and west travel route for the project vicinity.

Vineland Road – Currently, Vineland Road is undeveloped within the project area. Vineland Road is shown as an on and off ramp access to SR 178 on the existing SR 178 Specific Plan Line. Vineland Road south of SR 178 is planned as an arterial.

Masterson Street – Masterson Street is partially developed within the project area. Masterson Street is planned as an arterial north and south of SR 178.

Existing Traffic Volumes and Level of Service

The existing circulation system within the project area is fairly undeveloped. Exhibits 5.3-1 and 5.3-2 illustrate existing and future intersections, interchanges, and roadway segments. Traffic counts were performed at seven signalized intersections and seven unsignalized intersections during both the a.m. and p.m. peak hours (see Exhibit 5.3-1). Based on the traffic data collected, the existing peak hour level of service was determined for each intersection. Table 5.3-1 below lists the level of service for



SOURCE: Crenshaw Traffic Engineering.

NORTH

3520 1760 0 3520

SCALE IN FEET

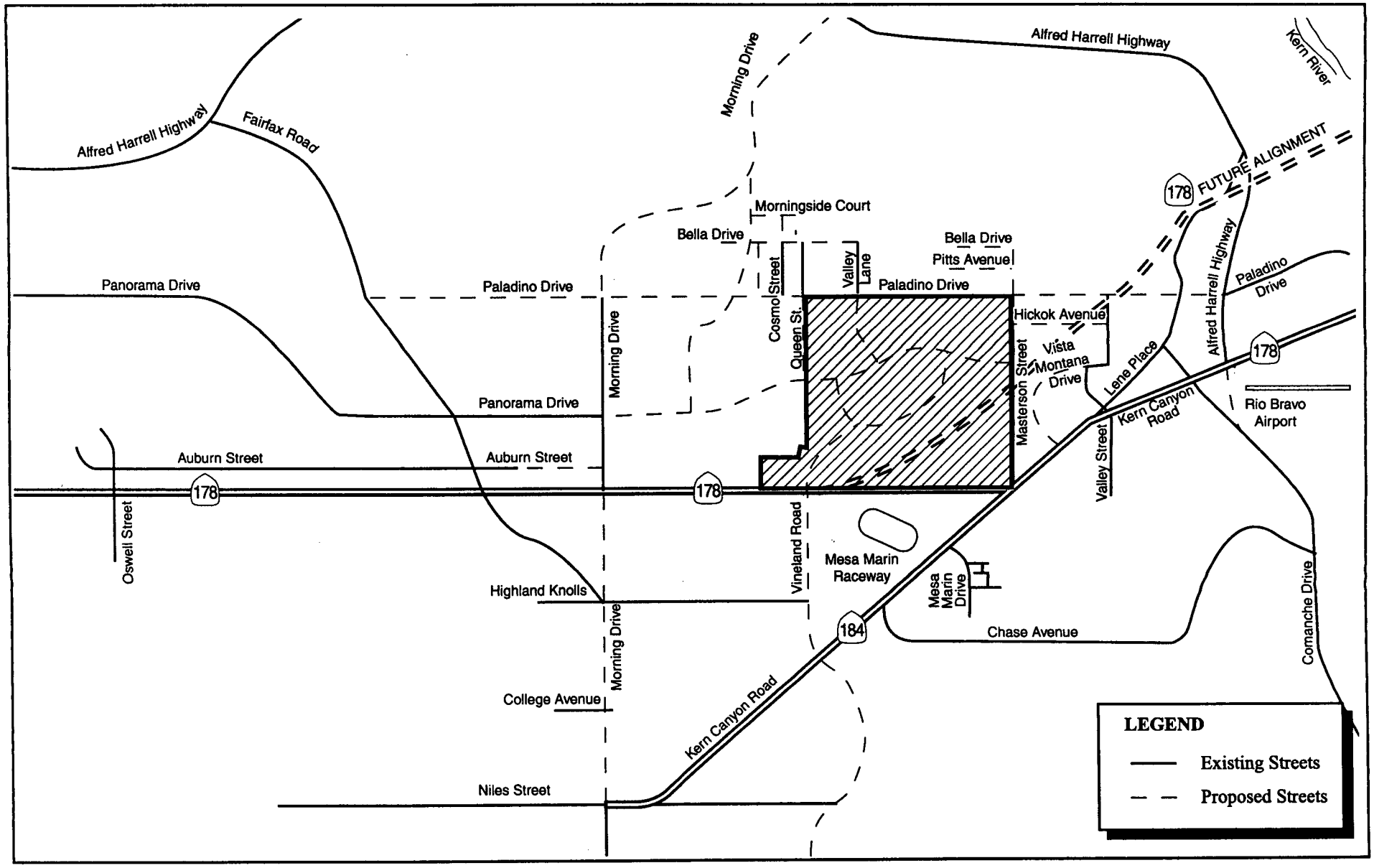
Michael Brandman Associates

02160011 • 5/2000

Exhibit **5.3-1**

Existing and Proposed Intersections and Interchanges

CITY OF BAKERSFIELD • CITY IN THE HILLS



NORTH

3520 1760 0 3520

SCALE IN FEET

Michael Brandman Associates

02160011 • 5/2000

Exhibit **5.3-2**

Existing and Proposed Roadway Alignments

CITY OF BAKERSFIELD • CITY IN THE HILLS

the existing intersections located in the project study area. All of these intersections currently operate at LOS C or better.

TABLE 5.3-1
EXISTING SIGNALIZED AND UNSIGNALIZED INTERSECTIONS
LEVELS OF SERVICE

Type of Intersection		**Existing Levels of Service**	
Signalized Intersections		**PM**	**AM**
Oswell Street and E/B Ramp SR 178		A	B
Oswell Street and W/B Ramp SR 178		A	A
Fairfax Road and SR 178		C	C
Auburn Street and Fairfax Road		C	C
Niles Street and Weedpatch Hwy. (SR184)		A	B
Panorama Drive and Fairfax Road		C	C
Unsignalized Intersections			
Morning Drive and SR 178	SBL	C	C
	SBR	A	A
	EBL	A	A
Masterson St.(SR 184) and SR 178	NB	B	B
	SB	C	B
	EBL	A	A
	WBL	A	A
Comanche Drive and SR 178	NB	B	B
	SB	B	B
	EBL	A	A
	WBL	A	A
Alfred Harrell Hwy. and SR 178	SB	A	A
	NB	N/A	N/A
	EBL	A	A
	WBL	N/A	N/A
Panorama Drive and Morning Drive	NB	A	A
	SB	A	A
	EB	A	A
	WB	N/A	N/A
	SB	A	A
Paladino Drive and Fairfax Road	NB	A	A
	EB	A	A
	WB	N/A	N/A

TABLE 5.3-1
EXISTING SIGNALIZED AND UNSIGNALIZED INTERSECTIONS
LEVELS OF SERVICE
(CONTINUED)

Type of Intersection ***Signalized Intersections***		**Existing Levels of Service**	
		PM	**AM**
Morning Drive and Auburn Street	NBL	A	A
	NBT	A	A
	SBT	A	A
	SBR	A	A
	EBL	A	A

Notes:
N/A – Not applicable because traffic movement does not exist.
SBR – Southbound Right
SBL – Southbound Left
SBT – Southbound Through
SB – Southbound
WBL – Westbound Left
WB – Westbound
NBL – Northbound Left
NBT – Northbound Through
NB – Northbound
EBL – Eastbound Left
EB – Eastbound

Source: Crenshaw Traffic Engineering, 2000 and Michael Brandman Associates, 2000.

In addition, an analysis of level of service for existing roadway segments in the study area was performed. Table 5.3-2 contains a complete capacity analysis of existing volumes for all of the arterials and two collectors in the general vicinity of the project. For each arterial and collector and its various distinct segments, the table identifies the existing level of service. As noted in Table 5.3-2, the arterial network in the general area of the project currently operates at adequate levels of service (i.e., at or better than LOS C).

Existing Traffic Signal Warrants

Seven intersections that are not currently signalized were analyzed for possible traffic signal warrants, based upon the State Division of Highway Warrants standards. According to the results of the analysis, there are no unsignalized intersections that currently meet the signal warrant criteria in the project study area.

TABLE 5.3-2
EXISTING STREET SEGMENTS
LEVELS OF SERVICE

Street Segments	Stripping/Existing	Geometric LOS
Panorama Drive From Morning Drive To Fairfax Road	2 Lane Collector	B
SR 178 From Fairfax Road To Morning Drive	2 Lane Arterial	B
From Morning Drive To Vineland Road	2 Lane Arterial	B
From Vineland Road To Masterson (SR 184)	2 Lane Arterial	A
From Masterson (SR 184) To Comanche Drive	2 Lane Arterial	A
Fairfax Road From Paladino Road To Panorama Drive	2 Lane Arterial	B
From Panorama Drive To SR 178	4 Lane Arterial	B
From SR 178 To Highland Knolls	2 Lane Arterial	C
Morning Drive From Panorama Drive To SR 178	2 Lane Arterial	B
Kern Canyon Road (SR 184) From SR 178 To Niles Street	2 Lane Arterial	B
Alfred Harrell Highway From SR 178 To Paladino Drive	2 Lane Arterial	A
Auburn Street Fairfax Road to Morning Drive	2 Lane Collector	B

Source: Crenshaw Traffic Engineering, 2000 and Michael Brandman Associates, 2000.

Transportation Impact Fee Program

The City of Bakersfield has established a transportation impact fee program for urban areas within the City of Bakersfield. The fee program (Metropolitan Bakersfield Transportation Impact Fee Program) is to provide intersection and roadway segment improvements as development occurs within the City.

It is assumed that before the issuance of building permits the project applicant shall comply with the Metropolitan Bakersfield Transportation Impact Fee Program.

5.3.2 PROJECT IMPACTS

The analysis of project impacts included the following assumptions regarding the proposed project.

- The proposed development will be completed before or by the year 2020 with traffic patterns established. The project will be approximately one-half developed by 2010.
- The primary access to and from the site will be from streets off of Vineland Road, Queen Street, Masterson Street, Panorama Drive, and Paladino Drive. This development will construct ultimate street improvements within the project site, including traffic signal installation at the intersection of arterial and collector streets as development access and signals are warranted.
- That the actual a.m. and p.m. peak hour traffic conditions are appropriate for this analysis.
- The growth factor of 3.0 percent per year will be appropriate to calculate future volumes to year 2010.
- 2020 volumes were developed by using KERNCOG information.
- That by year 2020, SR 178 will be constructed to full freeway status in the area and will have an interchange at Fairfax Road, Vineland Road, and Masterson Street.

Based on the above assumption relating to project build-out, the project impacts and mitigation measures described below are separated for the year 2010 (one-half build-out) and 2020 (full build-out).

Thresholds of Significance

Traffic impacts are considered significant if a project contributes traffic to a roadway segment or intersection that currently operates at a LOS C or better and degrades the level of service to LOS D or worse. If any roadway segment of intersection currently operates at LOS D or worse, a significant impact would occur if the project degrades the level of service.

Existing Plus Project Roadway Circulation System

Development of the proposed project includes the addition of new arterial, collector, and local street alignments internal to the proposed project site. Exhibit 3-5 in Section 3.2 displays the proposed changes to the General Plan Circulation Amendment that would be implemented with the proposed project.

Project Trip Generation

The daily traffic volumes estimated to be generated by the proposed development were based on the data obtained from the Institute of Transportation Engineers (ITE) Trip Generation, 6th edition, dated January 1997. At full buildout, it is estimated that the project would generate a total of approximately 60,976 vehicular trip ends per day. It is assumed that 15 percent of the trip ends will remain within the project site (i.e., from Residential to Commercial uses within the development). This 15 percent of the trips ends will remain onsite and are considered capture trips. Approximately 51,830 daily trip ends will access the surrounding roadways.

Table 5.3-3 shows the daily and peak hour trip ends generated by the project, by proposed land use. Accounting for the anticipated 15 percent of trips internal to the site, the proposed project would increase the peak a.m. hour trips on surrounding roadways by approximately 2,746 and the peak p.m. hour trips by approximately 4,939.

TABLE 5.3-3
PROJECT TRIPS

Land Use	Units/Square Footage	A.M. Peak Hour Trips	P.M. Peak Hour Trips	Total Project Trips	Total Project Trips with 15% Capture Trips
Low-Density Residential	2750 units	1,934	2,126	22,160	18,836
Multi-Family Residential	1300 units	649	722	7,926	6,737
General Commercial	1,048,706 (Gross leaseable Floor Area)	648	2962	30,890	26,257
Total	**----**	**3,231**	**5,810**	**60,976**	**51,830**
Source: Crenshaw Traffic Engineering, 2000 and Michael Brandman Associates, 2000					

Project Impact Analysis

The anticipated project-related traffic volumes were distributed onto the local roadway system based on manual count data, observation of peak hour traffic movements, the characteristics of the nearby road system, and the population distribution of the region. Exhibit 5.3-1 shows the intersections analyzed for the years 2010 and 2020, while Exhibit 5.3-2 shows the roadway segments analyzed for the same years.

Intersection Analysis

Table 5.3-4, below, shows the expected level of service with project implementation and without project implementation, under existing and future conditions during the AM and PM peak hours.

As shown on Table 5.3-4, implementation of the proposed project will result in several intersections operating at deficient levels (LOS D or worse), or the degradation of an already deficient intersection (e.g., LOS D or worse). Except for the Fairfax Road and SR 178 intersection, all of these intersections are unsignalized.

Intersections that would be significantly impacted by the portion of the proposed project that would be developed by the year 2010 include:

- Fairfax Road and SR 178
- Morning Drive and SR 178
- Masterson Street (SR 184) and Old SR 178
- Vineland Road and SR 178

TABLE 5.3-4
SIGNALIZED AND UNSIGNALIZED INTERSECTIONS
YEARS 2010 AND 2020 LEVELS OF SERVICE

Type of Intersection				2010		2010		2020		202
		Existing		W/O Project		With Project		W/O Project		With P
Signalized Intersections		PM	AM	PM	AM	PM	AM	PM	AM	PM
Oswell Street and EB Ramp SR 178		A	B	B	A	B	A	B	B	B
Oswell Street and WB Ramp SR 178		A	A	A	B	B	B	A	A	B
Fairfax Road and SR 178[1]		C	C	F	C	F	F	F	F	F
	EBRP	N/A	N/A	N/A	N/A	N/A	N/A	B	B	B
	WBRP	N/A	N/A	N/A	N/A	N/A	N/A	A	A	A
Auburn Street and Fairfax Road		C	C	C	C	C	C	C	C	B
Niles Street and Weedpatch Hwy. (SR184)		A	B	B	B	B	B	B	B	B
Panorama Drive and Fairfax Road		C	C	C	C	C	C	C	C	C
Fairfax Road and Panorama Drive		C	C	C	C	C	C	C	C	C
Unsignalized Intersections										
Morning Drive and SR 178[2]	SBL	C	C	D	C	F	F	F	F	F
	SBR	A	A	A	A	B	F	F	F	F
	EBL	A	A	A	A	F	F	F	F	F
	EBRP	N/A	N/A	N/A	N/A	N/A	N/A	A	A	A
	WBRP	N/A	N/A	N/A	N/A	N/A	N/A	A	A	A
Masterson St.(SR 184) and Old SR 178	NB	B	B	C	C	F	F	B	B	F
	SB	C	B	C	B	F	F	C	B	F
	EBL	A	A	A	A	A	A	A	A	C
	WBL	A	A	A	A	A	A	A	A	A
Masterson St. (SR 184) and SR 178	EBRP	N/A	N/A	N/A	N/A	N/A	N/A	B	A	A
	WBRP	N/A	N/A	N/A	N/A	N/A	N/A	A	A	N/A
Old Comanche Drive and Old SR 178	NB	B	B	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SB	B	B	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	EBL	A	A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	WBL	A	A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TABLE 5.3-4
SIGNALIZED AND UNSIGNALIZED INTERSECTIONS
YEARS 2010 AND 2020 LEVELS OF SERVICE (CONTINUED)

Type of Intersection		**Existing**		**2010 W/O Project**		**2010 With Project**		**2020 W/O Project**		**2020 With Project**	
Unsignalized Intersections		**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**
Alfred Harrell Hwy./ Comanche Drive and Old SR 178[2]	SB	A	A	B	A	B	B	F	B	C	B
	NB	N/A	N/A	B	N/A	B	N/A	F	A	F	B
	EBL	A	A	A	A	A	A	A	A	A	A
	WBL	N/A	N/A	N/A	N/A	N/A	N/A	B	A	A	A
	SI	N/A	N/A	N/A	N/A	N/A	N/A	A	A	B	B
Panorama Drive and Morning Drive	NB	A	A	A	A	B	A	C	B	F	F
	SB	A	A	A	A	A	A	B	B	F	F
	EB	A	A	A	A	A	A	A	B	F	F
	WB	N/A	N/A	N/A	N/A	A	A	A	A	F	F
Paladino Drive and Fairfax Road	NB	A	A	A	A	A	A	F	B	F	F
	SB	A	A	A	A	A	A	F	B	F	F
	EB	A	A	A	A	A	A	A	B	A	A
	WB	N/A	N/A	N/A	N/A	N/A	A	A	A	A	A
Morning Drive and Auburn Street	NBL	A	A	A	A	B	B	C	C	F	C
	NBT	A	A	A	A	C	C	B	B	B	A
	SBT	A	A	A	A	B	B	B	B	E	B
	SBR	A	A	A	A	A	A	A	A	B	B
	EBL	A	A	A	A	A	A	A	F	A	F
Queen Street and Panorama St.	SBL	N/A	N/A	N/A	N/A	B	A	A	A	D	B
	SBR	N/A	N/A	N/A	N/A	A	A	B	A	B	A
	EBL	N/A	N/A	N/A	N/A	A	A	C	A	A	A
SR 178 and Vineland Road[2]	SBL	N/A	N/A	N/A	N/A	B	F	F	F	F	F
	SBR	N/A	N/A	N/A	N/A	A	F	F	F	F	F
	EBL	N/A	N/A	N/A	N/A	A	F	F	F	F	F
	EBRP	N/A	N/A	N/A	N/A	N/A	N/A	A	A	A	A
	WBRP	N/A	N/A	N/A	N/A	N/A	N/A	A	A	A	A
Morning Drive and Highland Knolls	EB	N/A	N/A	N/A	N/A	N/A	N/A	C	B	C	B
	WB	N/A	N/A	N/A	N/A	N/A	N/A	B	B	B	B
	NB	N/A	N/A	N/A	N/A	N/A	N/A	A	A	B	A
	SB	N/A	N/A	N/A	N/A	N/A	N/A	A	A	C	A
Vineland and Highland Knolls	EBL	N/A	N/A	N/A	N/A	N/A	N/A	C	B	C	B
	EBR	N/A	N/A	N/A	N/A	N/A	N/A	A	A	A	A
	NBL	N/A	N/A	N/A	N/A	N/A	N/A	A	A	A	A
SR 184 and Chase Avenue[2]	WBL	N/A	N/A	N/A	N/A	N/A	N/A	E	C	F	E
	WBR	N/A	N/A	N/A	N/A	N/A	N/A	B	B	B	B
	SBL	N/A	N/A	N/A	N/A	N/A	N/A	B	A	B	B
	SI	N/A	N/A	N/A	N/A	N/A	N/A	A	A	B	B

TABLE 5.3-4
SIGNALIZED AND UNSIGNALIZED INTERSECTIONS
YEARS 2010 AND 2020 LEVELS OF SERVICE (CONTINUED)

Type of Intersection		Existing		2010 W/O Project		2010 With Project		2020 W/O Project		2020 With Project	
Unsignalized Intersections		**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**
Vineland Road and SR 184	NB	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	F	F
	SB	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	F	F
	EBL	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C	B
	WBL	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C	B
	SI	N/A	N/A	N/A	N/A	N/A	N/A	A	A	A	A
Morning Drive and College Avenue	EB	N/A	N/A	N/A	N/A	N/A	N/A	B	B	B	B
	WB	N/A	N/A	N/A	N/A	N/A	N/A	B	B	B	B
	NBL	N/A	N/A	N/A	N/A	N/A	N/A	A	A	A	A
	SBL	N/A	N/A	N/A	N/A	N/A	N/A	A	A	A	A
Paladino Drive and Morning Drive	NB	N/A	N/A	N/A	N/A	N/A	N/A	C	F	F	F
	SB	N/A	N/A	N/A	N/A	N/A	N/A	F	F	F	F
	EBL	N/A	N/A	N/A	N/A	N/A	N/A	B	A	A	A
	WBL	N/A	N/A	N/A	N/A	N/A	N/A	A	A	A	A
	SI	N/A	N/A	N/A	N/A	N/A	N/A	A	A	A	A
Queen Street and Paladino Drive	NB	N/A	N/A	N/A	N/A	N/A	N/A	B	B	F	B
	SB	N/A	N/A	N/A	N/A	N/A	N/A	C	B	E	B
	EBL	N/A	N/A	N/A	N/A	N/A	N/A	A	A	A	A
	WBL	N/A	N/A	N/A	N/A	N/A	N/A	A	A	A	A
	SI	N/A	N/A	N/A	N/A	N/A	N/A	A	A	A	A
Masterson Street and Paladino Drive	NB	N/A	N/A	N/A	N/A	N/A	N/A	C	C	C	C
	SB	N/A	N/A	N/A	N/A	N/A	N/A	C	B	C	C
	EBL	N/A	N/A	N/A	N/A	N/A	N/A	A	A	A	A
	WBL	N/A	N/A	N/A	N/A	N/A	N/A	A	A	A	A

Notes:
N/A – Not applicable because traffic movement does not exist.
SBR – Southbound Right
SBL – Southbound Left
SBT – Southbound Through
SB – Southbound

NBL – Northbound Left
NBT – Northbound Through
NB – Northbound
SI – Signalized Intersection

WBR – Westbound Right
WBL – Westbound Left
WB – Westbound
WBRP – Westbound On and Off Ramps

EBR – Eastbound Right
EBL – Eastbound Left
EB – Eastbound
EBRP – Eastbound On and Off Ramps

[1] This intersection is analyzed with the existing SR 178 for the years 2010 and 2020 and analyzed as a full freeway interchange with eastbound and westbound ramps under the year 2020.
[2] Intersections are analyzed as unsignalized for each scenario and signalized for the year 2020 scenario. These intersections are assumed to be interchanges with SR 178 and include signals at each of the eastbound and westbound ramps under the year 2020.
Source: Crenshaw Traffic Engineering, 2000 and Michael Brandman Associates, 2000.

Intersections that would be significantly impacted at full project buildout in the year 2020 include:

- Fairfax Road and SR 178
- Morning Drive and SR 178
- Masterson Street (SR 184) and Old SR 178
- Alfred Harrell Highway/Comanche Drive and Old SR 178
- Panorama Drive and Morning Drive
- Paladino Drive and Fairfax Road
- Morning Drive and Auburn Street
- Vineland Road and SR 178
- SR 184 and Chase Avenue
- Vineland Road and SR 184
- Paladino Drive and Morning Drive
- Queen Street and Paladino Drive

The intersection of Queen Street and Panorama Drive was analyzed as an unsignalized intersection for the year 2020 in the a.m. and p.m because this intersection does not meet signal warrants for the year 2020. Under the year 2020 with project scenario in the p.m., the southbound left turn lane is projected to operate at LOS D. The remaining turning movements at the intersection would operate at LOS B or better. Overall, this intersection would operate at an acceptable LOS. The project would result in a less than significant impact at this intersection in the year 2020.

Traffic Signal Warrant Analysis

Traffic Signal Warrants were prepared for the unsignalized intersections within the project area and surrounding vicinity. All of the unsignalized intersections that would be significantly impacted by the project warrant signals under future with project year 2010, except Fairfax Road and Paladino Drive. All significantly impacted intersections under project year 2020 warrant traffic signals.

It should be noted that for purposes of this analysis that by the year 2020 it is assumed that SR 178 will be realigned (see Exhibit 3-5). The realigned portion of SR 178 is to be constructed to full freeway status from west of Fairfax Road to beyond the project site to the northeast. Signalized interchanges are to be developed at Fairfax Road, Morning Drive, Vineland Road, and Masterson Street.

Roadway Segment Analysis

The capacity of a roadway is affected by a number of factors, including the width of the roadway, the number of crossing arterials and collectors, the presence or absence of on-street parking, the number of turning lanes at each intersection, and the number of driveways. For purposes of this analysis, the HCM method was applied to the roadway segments within the study area. Table 5.3-5 indicates the level of service for each study area roadway segment for one-half project build-out in 2010 and full buildout in 2020.

TABLE 5.3-5
ROADWAY SEGMENT
YEARS 2010 AND 2020 LEVELS OF SERVICE

ROADWAY SEGMENT	Stripping In 2010/2020	LOS 2010 Without Project	LOS 2010 With Project	LOS 2020 Without Project	LOS 2020 With Project
Panorama Drive					
From Morning Drive to Fairfax Road	2 lane art	B	B	C	C
From Morning Drive to Queen Street	2 lane art	N/A	B	B	C
State Route 178					
From Fairfax Road to Morning Drive	2 lane art	C	F	C	C
From Morning Drive to Vineland Road	2 lane art	C	E	B	C
From Vineland Road to Masterson Street (SR 184)	2 lane art	B	D	A	B
From Masterson Street (SR 184) to Alfred Harrell Highway (Comanche Drive)	2 lane art	B	D	A	B
Old SR 178					
From Vineland Road to SR 184	2 lane art	N/A	N/A	A	B
From SR 184 to Alfred Harrell Hwy/Comanche Drive	2 lane art	N/A	N/A	A	A
Fairfax Road					
From Paladino Road to Panorama Drive	2 lane art	B	B	C	C
From Panorama Drive to SR 178	4 lane art	B	B	C	C
From SR 178 to Highland Knolls	2 lane art	C	C	C	C
Paladino Drive					
From Fairfax Road to Morning Drive	2 lane art	N/A	N/A	B	C
From Morning Drive to Queen Street	2 lane art	N/A	N/A	B	C
Highland Knolls					
From Morning Drive to Vineland Road	2 lane col	N/A	N/A	B	B

TABLE 5.3-5
2010 ONE-HALF BUILDOUT SCENARIO
ROADWAY SEGMENT
YEARS 2010 AND 2020 LEVELS OF SERVICE (CONTINUED)

ROADWAY SEGMENT	Stripping In 2010/2020	LOS 2010 Without Project	LOS 2010 With Project	LOS 2020 Without Project	LOS 2020 With Project
Morning Drive From Paladino Drive to SR 178 From SR 178 to Niles Street	2 lane art	B N/A	C N/A	C C	C C
Vineland Street From SR 178 to Kern Canyon Road (SR 184)	1 lane art	N/A	N/A	B	C
Kern Canyon Road (SR 184) From SR 178 to Niles Street	2 lane art	B	B	E	F
Alfred Harrell Hwy/Comanche Drive From SR 178 to Paladino Drive	2 lane art	A	A	A	B
Auburn Street From Fairfax Road to Morning Drive	2 lane col	B	B	B	B

Notes:
N/A – Not applicable because street segment does not exist.
Art – Arterial
Col- Collector
Fwy – Freeway Status

Source: Crenshaw Traffic Engineering, 2000.

5.3.3 CUMULATIVE IMPACTS

Development of the proposed project and future development in accordance with the City's General Plan would result in significant cumulative traffic impacts on intersections and roadway segments. Future year 2010 and 2020 traffic volumes were determined using the traffic model data from the Kern County Council of Governments. The years 2010 and 2020 with project analysis that is included in Section 5.3.2 represents cumulative traffic impacts. As described in Section 5.3.2, the proposed project will result in significant traffic impacts. Therefore, the proposed project will contribute significantly to significant cumulative traffic impacts

5.3.4 MITIGATION MEASURES

To reduce the project's contribution to the significant cumulative impacts on intersections and roadway segments in the years 2010 and 2020, the following mitigation is required.

TR-1 Prior to the issuance of building permits, the project applicant shall comply with the Metropolitan Bakersfield Transportation Impact Fee Program.

These improvement fees shall be used to provide the improvements listed on pages 44 and 45 in Appendix C in the Draft EIR. The following improvements shall be included within the improvement list. Prior to issuance of building permits, the applicant's funding calculations for all improvements associated with the fee program shall be submitted to the City for review and approval.

- The following traffic signals shall be installed in the year 2020.
  - Panorama Drive and Morning Drive
  - Morning Drive and Auburn Street
  - Paladino Drive and Fairfax Road
  - Vineland Road and SR 184
  - Paladino Drive and Morning Drive

- The following roadway segment shall be installed in the year 2020.
  - Install lanes of pavement on Paladino Drive and Fairfax Road to Masterson Street.
  - Install 2 additional lanes of payment on Kern Canyon Road from SR 178 to Niles Street.

TR-2 Prior to the issuance of building permits, the project applicant shall provide its fair share funding toward the following improvements. At the time of issuing building permits, the applicant's funding calculations for all improvements associated with the fee program shall be submitted to the City for review and approval.

- Traffic signals shall be installed at the following locations in the years 2010 and 2020:

  <u>Year 2010 (Project One-Half Buildout)</u>

  - Vineland Road and Interior Collector Street
  - Panorama Drive and Interior Collector Street (2 locations)
  - Panorama Drive and Masterson Street
  - Morning Drive and SR 178
  - Masterson Street (SR 184) and Old SR 178
  - Vineland Road and SR 178

Year 2020 (Full Project Buildout)

- SR 184 and Chase Avenue
- Queen Street and Paladino Drive
- Alfred Harrell Highway/Comanche Drive and SR 178

- The following intersection improvement shall be installed at the following location.

Year 2010 (Project One-Half Buildout)

- Add one left turn lane to eastbound and westbound lanes and re-time traffic signals at the intersect of Fairfax Road and SR 178.

- The following roadway segments shall be installed in the year 2010.

Year 2010 (Project One-Half Buildout)

- Install Vineland Road between SR 178 and Collector Loop Street
- Install half width of SR 178 and Masterson Street along the project frontage.
- Install 2 lanes of pavement on Panorama Drive from Morning Drive to Queen Street
- Install 2 additional lanes of pavement on Old SR 178 from Fairfax Road to Alfred Harrell Highway/Comanche Drive.

TR-3 Prior to the issuance of a building permit, the project applicant shall provide funding for the future realigned SR 178 between Fairfax Road and Alfred Harrell Highway/Comanche Drive. The funding will be for that portion of the future realigned SR 178 which is determined to be the obligation of local development. The project's share of traffic on SR 178 is 7.5 percent.

TR-4 Prior to the issuance of building permits, the project applicant shall provide the City of Bakersfield with a phasing plan of the onsite roadway segments. The project applicant shall install the following roadway segments that are not part of the Metropolitan Bakersfield Transportation Impact Fee Program.

- Install Panorama between Queen Street and Masterson Street

- Install the onsite Collector Loop Street
- Install Valley Lane between Panorama Drive and Paladino Drive
- Install Queen Street between Panorama Drive and Paladino Drive

5.3.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Subsequent to implementation of the mitigation measures described above, all study area intersections and roadway segments will operate at level of service C or better and no significant unavoidable impacts would result.

5.4 NOISE

This section incorporates information contained in the Environmental Noise Assessment prepared for the proposed project by Brown-Buntin Associates, Inc. in February 2000. The complete report is contained in Appendix D of this EIR.

5.4.1 EXISTING CONDITIONS

Acoustic Fundamentals

Noise is often described as unwanted sound, and thus is a subjective reaction to the physical phenomenon of sound. Sound is variations in air pressure that the ear can detect.

The ear responds to pressure changes over a range of 10^{14} to 1. This is roughly equivalent to the range of 1 second as compared to 3.2 million years, or 1 square yard compared to the entire surface area of the earth. To deal with the extreme range of pressures which the ear can detect, researchers express the amount of acoustical energy of a sound by comparing the measured sound pressure to a reference pressure, then taking the logarithm (base 10) of the square of that number. This original unit of sound measurement, named the *bel* after Alexander Graham Bell, corresponded well to human hearing characteristics if it was divided by a factor of 10. The resulting unit, one tenth of a *bel*, is called the decibel, and is abbreviated as dB.

Assuming that the reference pressure is the threshold of hearing (0 dB), the range of sounds in normal human experience can be compressed into the range of 0 to 140 dB. The complete displacement of the atmosphere would be 194 dB, which may be experienced, in close proximity to a Saturn rocket blastoff. People can detect changes of as little as 1 dB in a laboratory environment. However, as a practical matter, changes of 1-2 dB are usually required before a person can detect a change in sound level outside the laboratory with any certainty. Typically, a change of 3 dB is noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as a doubling (or halving) of the sound level.

Because sound pressure levels are defined as logarithmic numbers, the values cannot be directly added or subtracted. For example, two sound sources, each producing 50 dB, will produce 53 dB when combined not 100 dB. This is because two sources have two times the energy of one source, and 10 times the logarithm of 2 equals 3. Similarly, ten sources produce a 10 dB higher sound pressure level than one source, as ten times the logarithm of 10 equals 10.

The ear responds to pressure variations in the air from about 20 times per second to about 20,000 times per second. The frequency of the variations is described in terms of hertz (Hz), formerly called cycles per second. The ear does not respond equally to all frequencies. For example, we do not hear very low

frequency sounds as well as we hear higher frequency sounds, nor do we hear very high frequency sounds very well. This difference in perceived loudness varies with the sound pressure level of the sound. In general, the maximum sensitivity of the ear occurs at frequencies between about 500 and 8000 Hz. To compensate for the fact that the ear is not as sensitive at some frequencies and sound pressure levels as at others, a number of frequency weighting scales have been developed. The "A" weighting scale is most commonly used for environmental noise assessment, as sound pressure levels measured using an A-weighting filter correlate well with community response to noise sources such as aircraft and traffic.

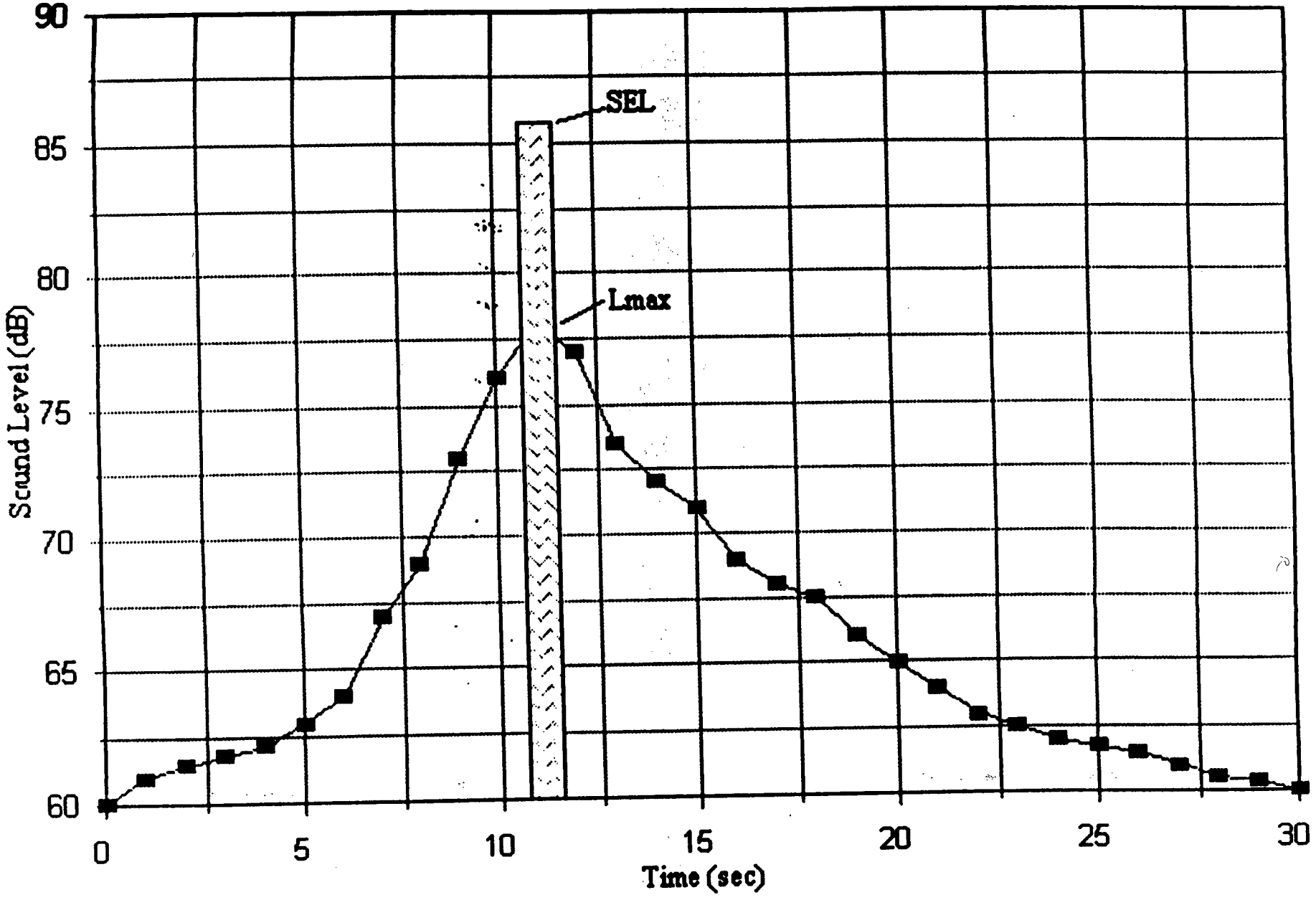
When an A-weighting filter is used to measure sound pressure levels, the results may be expressed as *sound levels*, in decibels (dB). It is sufficient to use the abbreviation "dB" if these terms are well defined, but many people prefer to use the expressions dBA or dB(A) for clarity. For convenience, many people use the term "noise level" interchangeably with "sound level." Table 5.4-1 shows typical sound levels and relative loudness for various types of noise environments.

Environmental Noise Descriptors

Most environmental noise sources produce varying amounts of noise over time, so the measured sound levels also vary. For example, noise produced during an aircraft overflight will vary from relatively quiet background levels before the overflight to a maximum value when the aircraft passes overhead, then returning down to background levels as the aircraft leaves the observer's vicinity. Similarly, noise from traffic varies with the number and types of vehicles, speed and proximity to the observer.

Variations in sound levels may be addressed by statistical methods. The simplest of these are the maximum (L_{max}) and minimum (L_{min}) noise levels, which are the highest and lowest levels observed. To describe less extreme variations in sound levels, other statistical descriptors may be used, such as the equivalent sound level (L_{eq}). Because people tend to react to the amount of acoustical energy received during noise exposures, the equivalent sound level is calculated from the total acoustical energy measured during the sample period. The L_{eq} may be calculated for any sound level sample period, but most commonly refers to the equivalent sound level during a 1-hour period.

For noise sources consisting of more or less discrete single noise events, such as aircraft overflights or train passbys, the exposure received during a noise event is expressed as the Sound Exposure Level (SEL). The SEL represents the total amount of acoustical energy measured during a noise event as though it occurred in a 1-second period. The SEL incorporates the concept of "How loud was it?" with "How long was it loud?". Exhibit 5.4-1 shows the relationship of SEL and Lmax as applied to an aircraft noise event. The SEL is higher than the Lmax occurring during the event because the SEL compresses the acoustical energy of the event into a reference period of one second and the assumed duration of the event is greater than one second.



Michael Brandman Associates

02160011 • 3/2000

Exhibit **5.4-1**

Typical Aircraft Noise Event

TABLE 5.4-1
EXAMPLES OF A-WEIGHTED SOUND LEVELS AND RELATIVE LOUDNESS

Sound	Sound Level (dBA)	Relative Loudness (approximate)	Relative Sound Energy
Jet aircraft, 100 feet	130	128	10,000,000
Rock music with amplifier	120	64	1,000,000
Thunder, snowmobile (operator)	110	32	100,000
Boiler shop, power mower	100	16	10,000
Orchestral crescendo at 25 feet, noisy kitchen	90	8	1,000
Busy street	80	4	100
Interior of department store	70	2	10
Ordinary conversation, 3 feet away	60	1	1
Quiet automobile at low speed	50	½	.1
Average office	40	1/4	.01
City residence	30	1/8	.001
Quiet country residence	20	1/16	.0001
Rustle of leaves	10	1/32	.00001
Threshold of hearing	0.00	1/64	.000001

Source: U.S. Department of Housing and Urban Development, "Aircraft Noise Impact -- Planning Guidelines for Local Agencies," 1972.

Finally, because people react not only to their perception of individual noise events, but also to how many events there are, and what time of day or night they occur, composite noise metrics have been developed to describe potential public reaction to long-term exposure to noise events. The two such common descriptors in the United States today are the Day-Night Average Sound Level (Ldn) and the Community Noise Equivalent Level (CNEL). The Ldn and CNEL include the concepts of "How loud was it?", "How long was it loud?", and "When was it loud?".

Public Reaction to Noise

Public reaction to transportation noise can be expressed as the percentage of the population which is "highly annoyed" by exposure to increasing Ldn values. Exhibit 5.4-2 shows this relationship. The number of persons "highly annoyed" represents the upper 25-30 percent of all persons who are annoyed to some degree by the noise. Widespread complaints may be expected when the transportation noise level exceeds 65 dB L_{dn} and widespread threats of legal action may be expected when the transportation noise level exceeds 70 dB L_{dn}. For impulsive noise sources, "C"-weighted sound levels are often used; the percent highly annoyed is higher for a given Lcd value.

Sound Propagation and Attenuation

For purpose of sound propagation, noise sources may be classified as "point" sources or "line" sources. Point sources usually are localized, and at a distance sound from such sources will propagate in a spherical pattern. Sound levels from point sources will attenuate or drop-off at the rate of 6 dB for each doubling of distance. Sound from line sources propagate in a cylindrical pattern. Sound levels from line sources will attenuate at the rate of 3 dB per doubling of distance. Examples of point and line noise sources are a fixed piece of machinery and a highway.

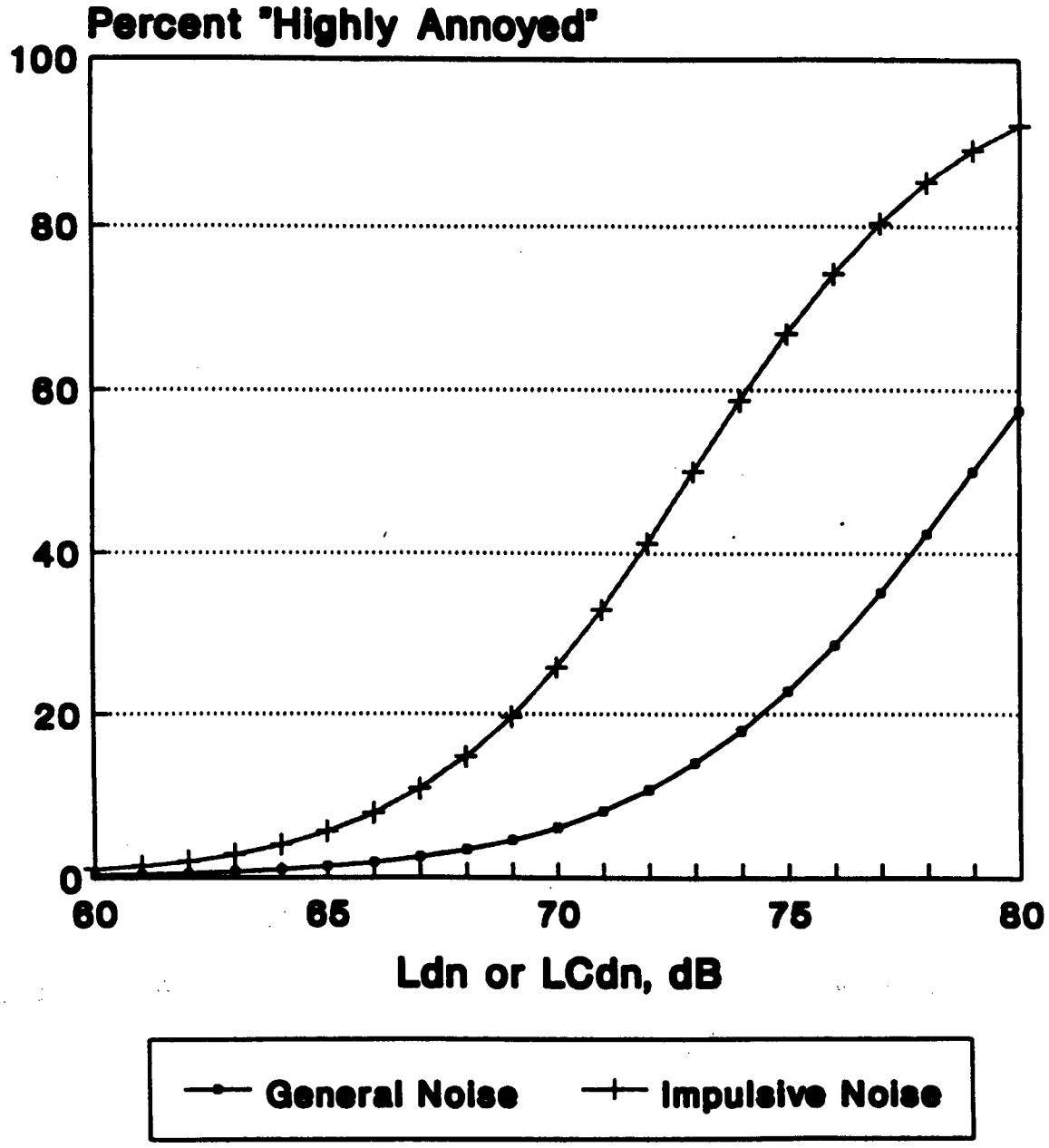
In addition to attenuation by wave spreading, sound levels also may be attenuated by air and ground absorption, and from shielding by natural or man-made obstacles in the sound path. Noise barriers (walls or earth berms) are a special obstacle that are a common strategy used to interrupt noise propagation and thereby reduce noise levels. Other factors that will also influence sound propagation are wind and atmospheric temperature inversions. Obviously, all of these factors can work together influencing sound propagation. Computer models are often used to help predict sound levels in complex environments.

Existing Noise Sources

Ambient Noise Survey

Background noise level measurements were conducted within the site on October 19, 1999. The measurement sites are located on Exhibit 5.4-3. The background noise levels at these sites are representative of locations that are removed from obvious noise sources, such as traffic from State Route (SR) 178. Table 5.4-2 identifies the results of the ambient noise level measurements. As shown on Exhibit 5.4-3, at the three sites in which measurements were taken, L_{50} noise levels ranged from approximately 32-34 dBA.

Noise monitoring equipment used for the study consisted of a Larson Davis Laboratories Model 820 integrating sound level meter equipped with a Bruel & Kjaer (B&K) Type 4176 ½" microphone. The instrumentation complies with applicable requirements of the American National Standards Institute (ANSI) for Type 1 (precision) sound level meters and was calibrated prior to use with a B&K Type 4230 acoustical calibrator to ensure the accuracy of the measurements.



Michael Brandman Associates

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Exhibit 5.4-2
Public Reaction to Noise

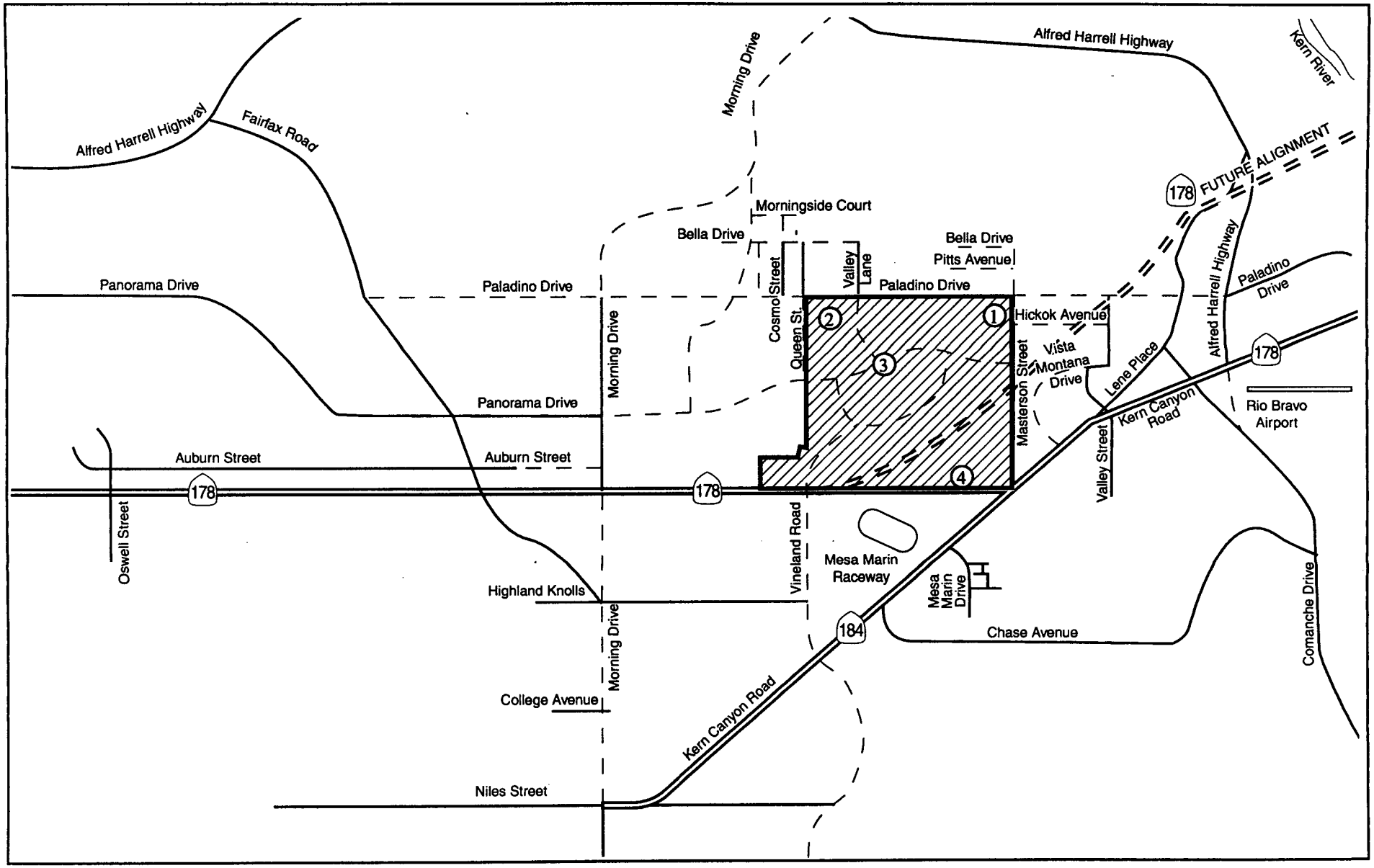

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Exhibit **5.4-3**

Noise Measurement Sites

CITY OF BAKERSFIELD • CITY IN THE HILLS

TABLE 5.4-2
AMBIENT NOISE LEVEL MEASUREMENTS

Site No.	Time	L_{50}	L_{max}	Comments
1	10:00-10:15 a.m.	32.0	58.5	Local traffic
2	10:20-10:35 a.m.	32.6	48.8	Local traffic, aircraft
3	10:40-10:55 a.m.	33.8	45.6	Distant traffic, birds
4	11:00-11:15 a.m.	60.2	70.1	Route 178 traffic
Source: Brown-Buntin Associates, Inc., February 2000				

Existing Traffic Noise Levels

Existing traffic noise levels were calculated using the FHWA Highway Traffic Noise Prediction Model (U.S. Department of Transportation 1978). The FHWA Model is the standard methodology recommended by the FHWA and Caltrans for traffic noise prediction. Traffic data used in the FHWA Model were obtained from Crenshaw Traffic Engineering. Table 5.4-3 shows the existing traffic noise levels in the project study area. A summary of the traffic data used in the model is provided in Appendix D.

The FHWA Model is the analytical method currently favored by most state and local agencies, including Caltrans, for highway traffic noise predication. The Model is based upon reference energy emission levels for automobiles, medium trucks (2 axles) and heavy trucks (3 or more axles), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model was developed to predict hourly L_{eq} values for free-flowing traffic conditions, and is generally considered to be accurate within 1.5 dB. The Model assumes a clear view of traffic with no shielding at the receiver location. To predict CNEL values, it is necessary to determine the hourly distribution of traffic for a typical day and adjust the traffic volume input data to yield an equivalent hourly traffic volume. The Calveno traffic noise emission curves were used as recommended by Caltrans to more accurately calculate noise levels generated by California traffic.

Table 5.4-3 shows calculated CNEL values at assumed typical residential setbacks (75 feet) from major roadways near the project. Also shown in Table 5.4-3 is the distance from roadway centers to the 65 dB CNEL contour. Note that existing traffic noise levels do not exceed the 65 dB CNEL compatibility standard, except along Fairfax Road from south of SR 178 to Auburn Street.

Regulatory Setting

The project site is within the City of Bakersfield. The applicable standards for overall noise levels that apply to this project are those within the Metropolitan Bakersfield 2010 General Plan. No federal or state noise standards are applicable to this project. For transportation noise sources (e.g.. traffic and railway noise), the Noise Element of the General Plan sets a standard of 65 dB CNEL at the exterior of noise-

sensitive uses. Noise-sensitive uses include residences, schools, hospitals and recreational areas. Although not considered to be noise sensitive, the General Plan requires commercial and professional uses "to be consistent with the recommendations of the California Office of Noise Control" (Figure VII-3 of the General Plan). For non-transportation noise sources (e.g., industries), the Noise Element applies hourly noise levels performance standards at residential and other noise-sensitive uses (see Table 5.4-4).

TABLE 5.4-3
EXISTING TRAFFIC NOISE LEVELS
AT ASSUMED TYPICAL RESIDENTIAL SETBACK FROM ROADS[a]

Roadway	CNEL, dB	Distance to 65 dB CNEL Contour, Feet
Panorama Drive		
Fairfax-Morning	62.2	49
Morning-Queen	N/A	N/A
Queen-Masterson	N/A	N/A
Auburn Street		
Fairfax-Morning	61.0	41
Route 178		
Oswell-Fairfax	56.0	31
Fairfax-Morning	61.0	68
Morning-Vineyard	60.9	66
Vineyard-Masterson	61.1	68
Masterson-Alfred Harrell	60.9	67
Fairfax Road		
South of Route 178	61.8	46
Route 178-Auburn	66.8	99
Auburn-Panorama	65.2	78
Morning Drive		
Route 178-Panorama	56.9	22
Vineyard Road		
North of Route 178	N/A	N/A
Route 184		
Niles-Route 178	58.9	30
Route 178 (Future Alignment)		
West of Masterson	N/A	N/A
East of Masterson	N/A	N/A

Note: N/A – Not applicable because street segment does not exist.
[a] Calculated at assumed typical residential setback (125 feet from SR 178; 75 feet for other roadways)
Source: Brown-Buntin Associates, Inc., February 2000

TABLE 5.4-4
HOURLY NOISE LEVEL PERFORMANCE STANDARDS
METROPOLITAN BAKERSFIELD 2010 GENERAL PLAN

Maximum Acceptable Noise Level, dBA		
Min./Hr. (L_n)	**Day (7am-10pm)**	**Night (10pm-7am)**
30 (L_{50})	55	50
15 (L_{25})	60	55
5 ($L_{8.3}$)	65	60
1 ($L_{1.7}$)	70	65
0 (L_{max})	75	70

Note: L_n means the percentage of time the noise level is exceeded during an hour. L_{50} means the level exceeded 50% of the hour, L_{25} is the level exceeded 25% of the hour, etc.
Source: Brown-Buntin Associates, Inc., February 2000

5.4.2 PROJECT IMPACTS

Thresholds of Significance

To assess long-term noise impacts, the standards in the City's Noise Element are used. A significant long-term noise impact would occur when a project results in noise levels exceeding the noise standards established by the City (i.e., 65 dB CNEL for residences) or causes a substantial degradation of the existing ambient noise environment.

The City's Noise Element establishes a maximum exposure of 65 dB CNEL at the exterior of "noise sensitive uses". Noise sensitive uses are defined in the General Plan as residences, schools, hospitals, and recreational uses. Although not noise sensitive, the General Plan requires commercial and professional uses to be consistent with the recommendations of the California Office of Noise Control. Noise exposure up to 70 dB CNEL is considered to be "normally acceptable" for commercial and professional uses.

A substantial degradation of the existing ambient environment is based on the existing noise level. For ambient noise levels of less than 60 db, between 60 db and 65 db, and greater than 65 db, a significant impact is an increase of more than 5.0 db, 3.0 db, and 1.5 db, respectively.

For non-transportation noise sources (i.e., industries), the General Plan applies hourly noise level standards at noise-sensitive uses. These standards are provided in Table 5.4-4.

Construction Noise

Construction noise impacts are considered short-term impacts in the sense that they occur only during periods of project construction. Earthmoving, materials handling, stationary, and impact equipment and

vehicles generate noise during clearing, excavation, grading, structure, roadway and utility construction operations associated with the development of the proposed project.

Actual noise levels generated by equipment and experienced at nearby and adjacent residences during construction would vary hourly, daily, and weekly because the number and types of equipment used would vary. Noise could be produced by diesel powered motor graders, tractors, fork lifts, loaders, rollers, asphalt pavers, generators, flatbed trucks, delivery trucks, and rollers. The proposed project would generate two types of construction noise: equipment noise and traffic noise. During the construction of the project, noise from construction activities would potentially impact noise-sensitive land uses in the immediate area. Activities involved in construction would generate noise levels in the 80s dBA at 50 feet from the sources indicated in Table 5.4-5. Construction activities would be temporary in nature and would most likely occur only during the daytime hours. Construction noise impacts could result in annoyance or sleep disruption for nearby residents if nighttime operations were to occur or if equipment is not properly muffled or maintained. Since construction noise is temporary and would be restricted to 7:00 a.m. to 7:00 p.m. Monday through Friday, and 9:00 a.m. to 6:00 p.m. on Saturday and Sunday, no significant short-term noise impacts would occur from construction activities.

TABLE 5.4-5
TYPICAL CONSTRUCTION EQUIPMENT NOISE LEVELS

Type of Equipment	Maximum Level, dB (50 Ft.)
Scrapers	88
Bulldozers	87
Heavy Trucks	88
Backhoe	85
Pneumatic Tools	85
Source: Brown-Buntin Associates, Inc., February 2000	

Commercial Noise Sources

Commercial zoning is proposed in the southern and eastern portions of the project site, along the future alignment of SR 178. Proposed commercial land uses would be adjacent and near proposed residential land uses. These residents would be exposed to varying amounts of commercial noise impacts. Noise sources commonly associated with commercial uses include stationary equipment (air conditioning units, trash compactors, fans, compressors, etc.) and truck deliveries. Actual noise levels generated in commercial areas and experienced at nearby and adjacent residences can not be determined at this time since specific commercial uses are not proposed at this time. Adjacent residences could experience temporary short-term noise levels in the 50s and 60s dBA from nearby commercial uses. This could result in noise levels exceeding the city's hourly noise level performance standards. Because commercial stationary equipment and truck delivery noise levels can not be determined at this time, this impact is considered to be potentially significant.

Project-Related Traffic Noise Impacts

Development of the proposed land uses would result in a daily traffic volume increase of approximately 60,976 trips of which 51,830 trips would leave the project site and the remaining 9,146 trips would remain on the site. Project-related traffic noise impacts were based on a comparison of year 2010 with and without project and year 2020 with and without project. Based on the analysis in Table 5.4-6, the project would result in a significant noise impact along SR 178 between Fairfax Road and Morning Drive and along Masterson Street, north of Old SR 178 in the year 2010. The project would also result in significant noise impacts to 6 roadway segments, in the year 2020 as shown in Table 5.4-6. There are 10 of the 11 roadway segments in the year 2020 that will experience significant adverse project noise levels while the remaining street segment (new SR 178 west of Masterson Street) will experience a significant beneficial project noise impact.

TABLE 5.4-6
PROJECT-RELATED TRAFFIC NOISE[1]

Roadway	CNEL, Db								
		2010				2020			
	Existing	2010 w/o Project	2010 w/Project	Change, dB	Significant Impact?	2020 w/o Project	2020 w/ Project	Change, dB	Significant Impact?
Panorama Drive									
Fairfax-Morning	62.2	61.5	62.6	1.1	No	61.5	62.8	1.2	No
Morning-Queen	N/A	N/A	62.3	N	No	61.8	64.9	3.1	Yes
Queen-Masterson[2]	N/A	N/A	61.6	No	No	60.4	65.2	4.8	Yes
Auburn Street									
Fairfax-Morning	61.0	60.0	60.7	0.7	No	62.3	63.8	1.5	No
SR 178									
Oswell-Fairfax	59.3	66.9	68.1	1.2	No	70.1	70.7	0.6	No
Fairfax-Morning	64.4	62.4	65.2	2.8	Yes	68.7	69.6	0.9	No
Morning-Vineland	64.2	62.3	64.2	1.9	No	67.9	68.2	0.3	No
Vineland-Masterson[2]	64.4	62.3	62.9	0.6	No	59.2	60.9	1.7	No
Masterson-Alfred Harrell	64.3	62.5	63.1	0.6	No	61.8	61.9	-0.1	No
Fairfax Road									
South of SR 178	66.8	62.9	63.6	0.7	No	63.1	63.3	0.2	No
SR 178-Auburn	66.8	67.5	68.3	0.8	No	67.1	67.5	0.4	No
Auburn-Panorama	65.2	65.7	66.2	0.5	No	67.5	68.0	1.5	Yes
Panorama-Paladino	60.5	61.7	61.9	0.2	No	65.9	67.5	1.6	Yes

TABLE 5.4-6
PROJECT-RELATED TRAFFIC NOISE[1]
(CONTINUED)

Roadway	CNEL, dB								
		2010				2020			
	Existing	2010 w/o Project	2010 w/ Project	Change, dB	Significant Impact?	2020 w/o Project	2020 w/ Project	Change, dB	Significant Impact?
Morning Drive									
South of SR 178	N/A	N/A	N/A	N/A	N/A	62.8	64.1	1.3	No
SR 178-Panorama	56.9	58.6	63.5	0.9	No	63.6	64.8		
Vineland Road									
South of SR 178	N/A	N/A	N/A	N/A	N/A	63.3	64.4	1.1	No
North of SR 178[2]	N/A	N/A	63.4	N	No	59.2	64.4	5.2	Yes
SR 184									
Niles-SR 178	58.9	62.1	63.8	1.7	No	67.3	67.1	-0.2	No
SR 178 (Future Alignment)									
West of Masterson[2]	N/A	N/A	N/A	N/A	N/A	69.4	67.7	-1.7	Yes
East of Masterson	N/A	N/A	N/A	N/A	N/A	69.0	70.2	1.2	No
Masterson Street									
North of SR New 178[2] Old SR 178	N/A	52.3	60.4	8.1	Yes	61.5	65.8	4.3	Yes
Paladino Drive									
Fairfax-Morning	N/A	N/A	N/A	N/A	N/A	64.2	65.9	1.7	Yes
Morning-Queen	N/A	N/A	N/A	N/A	N/A	64.3	65.9	1.6	Yes
Queen-Masterson	N/A	N/A	N/A	N/A	N/A	63.1	65.9	2.8	Yes
Masterson-Alfred Harrell	N/A	N/A	N/A	N/A	N/A	63.1	65.9	2.8	Yes

Note: N/A – Not applicable because the street segment does not exist.
NA – Traffic volumes for these street segments are not available.
N – The change in traffic noise levels can not be determined; however, if noise level is 65.0 dB or greater, the noise level is significant.

[1]Calculated at assumed typical residential setback (125 feet from SR 178; 75 feet for other roadways).
[2] Streets within or adjacent to project.
Source: Brown-Buntin Associates, Inc., February 2000 and Michael Brandman Associates, March 2000

Mesa Marin Raceway Noise

As shown by Exhibit 3-2, Mesa Marin Raceway is located directly south of the project site. The center of the raceway oval is approximately 1,200 feet from the southern boundary of the project site.

The raceway features NASCAR sanctioned stock car races. During the 1999 racing season, which extended from March through October, 26 evenings of racing were scheduled. Most of the events occurred on Saturdays, although a few were scheduled on Thursday, Friday, or Sunday.

Noise levels due to qualifying and racing at Mesa Marin that are used in this report were obtained from the acoustical analysis prepared for the City of Bakersfield by Gordon Bricken and Associates, Consulting Acoustical and Energy Engineers. The Bricken report is based on measured noise levels around Mesa Marin Raceway for one evening of racing (September 9, 1995). According to the report, the noise impacts vary daily and to obtain a true calculation of noise impacts it would take several years of measurements. It should be noted that the following measurements should be used conservatively in making long term land use decisions. However, although Bricken's study is based on only one evening of racing, it represents the most recent and most complete analysis of noise levels generated by Mesa Marin Raceway.

The noise levels measured on September 9, 1995 were used as a basis for plotting noise contours around the raceway that are presented in the Bricken report. The contours are based on the Late Model Stock Car race, which produced the highest noise levels. One of the most important factors that effects noise propagation, and, therefore, the extent of the noise contours, is wind speed and direction. According to National Weather Service records at Meadows Field, the wind direction is 250 degrees (west) to 350 degrees (north) 66 percent of the time in this area. The range of wind speeds 66 percent of the time is 4 to 9 knots. Additionally, 95 percent of all winds over 10 knots occur in the range of 270 degrees to 360 degrees. Although calm conditions and wind blowing from the south or southeast can occur, the prevailing wind direction is from the north and northwest.

Exhibit 5.4-4 shows L_{50} and L_{max} noise contours for 5 knot northwest winds superimposed on the project site. The noise contours are derived from Exhibit 3 and 4 of the Bricken report. The L_{50}-55 dBA and L_{max}-75 dBA contours represent the limits of noise compatibility for racing that occurs in the daytime hours (7:00 a.m.-10:00 p.m.). The nighttime (10:00 p.m.-7:00 a.m.) noise standards are an L_{50} of 50 dBA and an L_{max} of 70 dBA. The L_{50}-50 dBA contour was not presented in the Bricken report.

Exhibit 5.4-5 shows the L_{50} -55 dBA and L_{max}-75 dBA contours for calm conditions. These are derived from Exhibit 7 of the Bricken report. The noise contours for calm conditions extend further north than noise contours representing wind from the northwest. Although noise contours representing the predominate northwest wind conditions usually will prevail, the more extensive contours representing calm conditions may sometimes occur.

The critical noise contour shown in Exhibit 5.4-4 is the L_{50}-55 dBA. Residential uses proposed within the L_{50}-55 dBA contour shown in Exhibit 5.4-4 would be incompatible with the City's noise standards and, therefore, cause a significant noise impact.

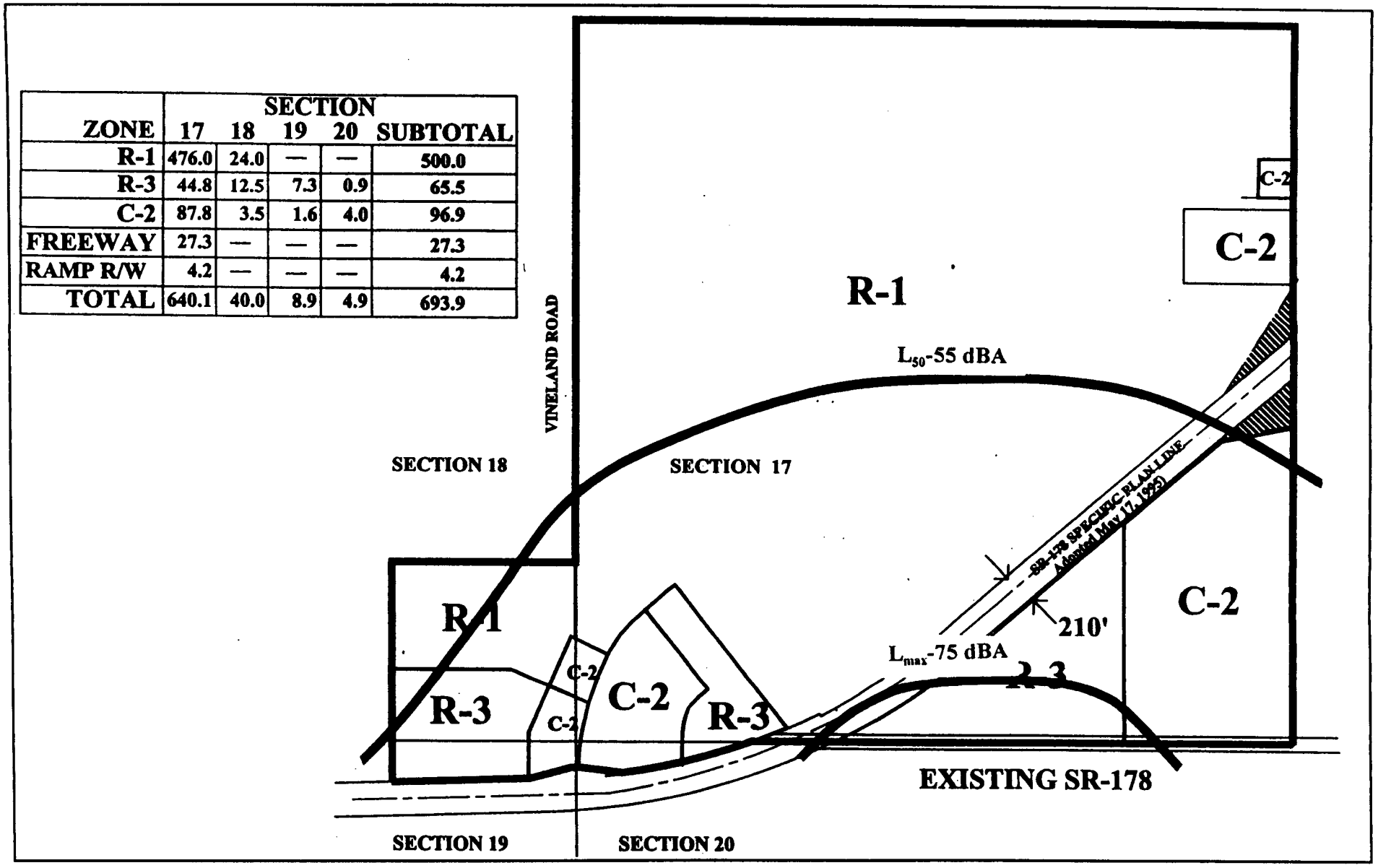
5.4.3 CUMULATIVE IMPACTS

The development of the proposed project and future development in accordance with the City's General Plan would increase noise levels within the project vicinity. As shown in Table 5.4-7, significant cumulative noise impacts along 18 roadway segments would occur. There are 16 of the 18 roadway segments that will experience significant adverse noise impacts while one of the roadway segments will experience a significant beneficial noise impact. The project's contribution to cumulative noise levels is considered significant as shown in Table 5.4-6.

TABLE 5.4-7
CUMULATIVE TRAFFIC NOISE

Roadway	Existing	2020 w/ Project	Change, dB	Significant Impact?
Panorama Drive				
Fairfax-Morning	62.2	62.8	0.6	No
Morning-Queen	N/A	64.9	N	No
Queen-Masterson[2]	N/A	65.2	N	Yes
Auburn Street				
Fairfax-Morning	61.0	63.8	2.8	No
SR 178 (Old Alignment)				
Oswell-Fairfax	59.3	70.7	11.4	Yes
Fairfax-Morning	64.4	69.6	5.2	Yes
Morning-Vineland	64.2	68.2	4.0	Yes
Vineland-Masterson[2]	64.4	60.9	-3.5	Yes[3]
Masterson-Alfred Harrell	64.3	61.9	-2.4	No
Fairfax Road				
South of SR 178	66.8	63.3	-3.5	Yes[3]
SR 178-Auburn	66.8	67.5	0.7	No
Auburn-Panorama	65.2	68.0	2.8	Yes
Panorama-Paladino	60.5	67.5	7.0	Yes
Morning Drive				
South of SR 178	N/A	64.1	N	No
SR 178-Panorama	56.9	64.8	7.9	Yes
Vineland Road				
South of SR 178	N/A	64.4	N	No
North of SR 178[2]	N/A	64.4	N	No
SR 184				
Niles-SR 178	58.9	67.1	8.2	Yes
SR 178 (Future Alignment)				
West of Masterson[2]	N/A	67.7	N	Yes
East of Masterson	N/A	70.2	N	Yes
Masterson Street				
North of New SR 178[2]	N/A	65.8	N	Yes
Old SR178-New SR178[2]	N/A	65.7	N	Yes

ZONE	SECTION 17	18	19	20	SUBTOTAL
R-1	476.0	24.0	—	—	500.0
R-3	44.8	12.5	7.3	0.9	65.5
C-2	87.8	3.5	1.6	4.0	96.9
FREEWAY	27.3	—	—	—	27.3
RAMP R/W	4.2	—	—	—	4.2
TOTAL	640.1	40.0	8.9	4.9	693.9



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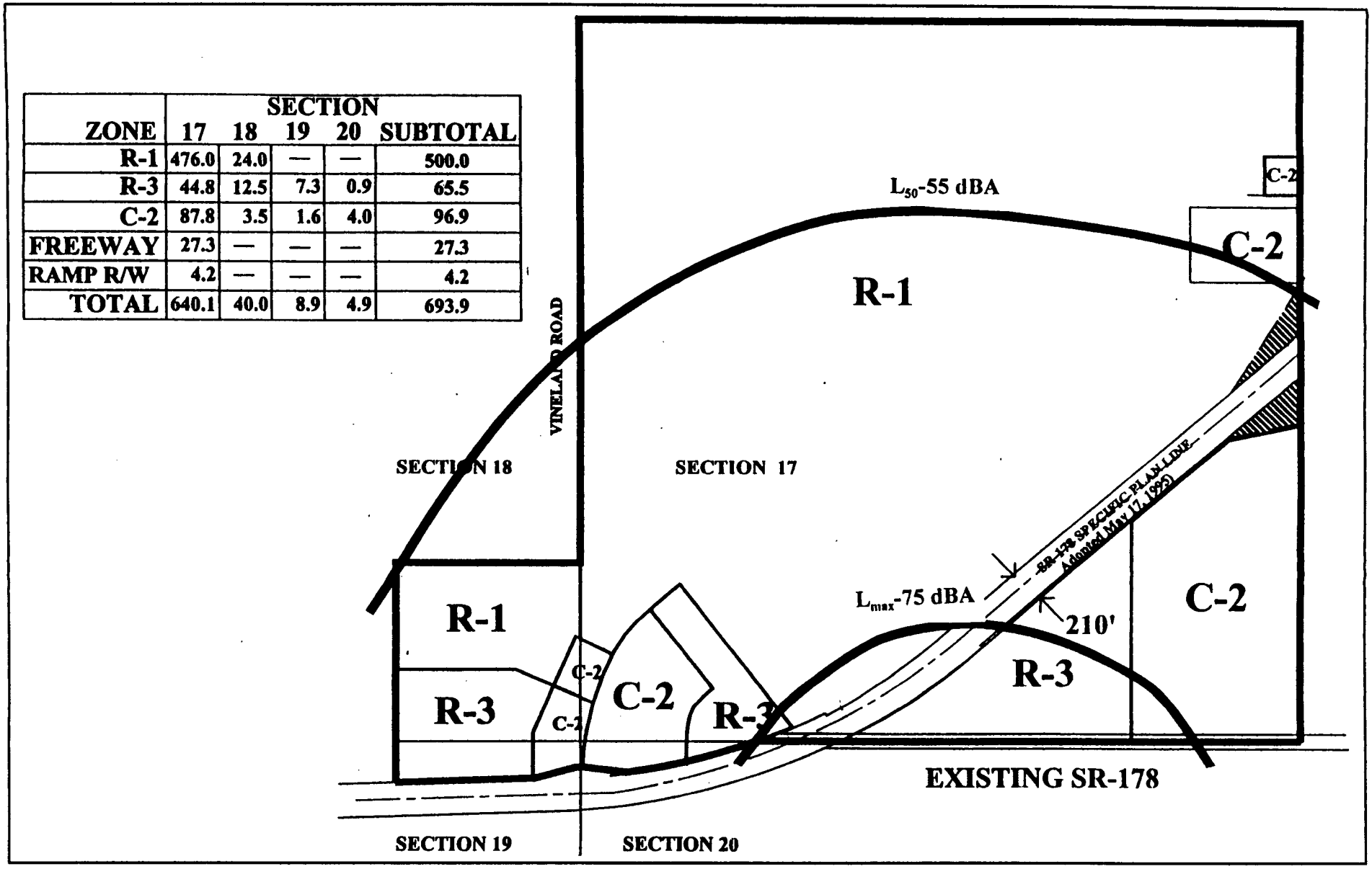
Michael Brandman Associates

Exhibit 5.4-4

Mesa Marin Raceway Noise Contours - 5 Knot Northwest Winds

ZONE	SECTION 17	18	19	20	SUBTOTAL
R-1	476.0	24.0	—	—	500.0
R-3	44.8	12.5	7.3	0.9	65.5
C-2	87.8	3.5	1.6	4.0	96.9
FREEWAY	27.3	—	—	—	27.3
RAMP R/W	4.2	—	—	—	4.2
TOTAL	640.1	40.0	8.9	4.9	693.9



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Michael Brandman Associates

Exhibit **5.4-5**

Mesa Marin Raceway Noise Contours - Calm Winds

TABLE 5.4-7
CUMULATIVE TRAFFIC NOISE
(CONTINUED)

Roadway	Existing	2020 w/ Project	Change, dB	Significant Impact?
Paladino Drive				
Fairfax-Morning	N/A	65.9	N	Yes
Morning-Queen	N/A	65.9	N	Yes
Queen-Masterson	N/A	65.9	N	Yes
Masterson-Alfred Harrell	N/A	65.9	N	Yes

Notes: N/A – Not applicable because street segment does not exist.
N – The change in traffic noise volumes can not be determined; however, if noise level is 65.0 dB or greater, the noise level is significant.

[1]Calculated at assumed typical residential setback (125 feet from SR 178; 75 feet for other roadways).
[2] Streets within or adjacent to project.
[3] This is a significant beneficial impact.
Source: Brown-Buntin Associates, Inc., February 2000 and Michael Brandman Associates, March 2000

5.4.4 MITIGATION MEASURES

Construction Noise Sources

No measures are required.

Commercial Noise Sources

N-1 Prior to the issuance of a building permit for the proposed commercial uses, the project applicant shall demonstrate that project commercial noise source impacts on nearby residences are below those indicated in the City's hourly noise level performance standards. To demonstrate commercial noise source impacts are below the City's standards, the project applicant may need to include project design features such as setbacks, barriers, building location/orientation, acoustical design of buildings, etc.

Project-Related Onsite Traffic Noise

N-2 Prior to the issuance of building permits, the project applicant shall reduce noise levels on the project residences by setting residential uses back from the roads by a distance equal to or greater than the 65 dB CNEL contour. For the future alignment of SR 178, the minimum setback distance shall be 188 feet; for Masterson Street and Paladino Drive, the minimum setback shall be 84 feet and 86 feet, respectively. As an alternative to setbacks, the project applicant could use soundwalls to mitigate traffic noise levels. The exact height and placement of soundwalls would depend on lot design and grading. Walls in the range of 6 to 10 feet

probably would suffice for most situations. When lot design and grading are established, an acoustical consultant shall establish necessary wall heights and locations.

Project-Related Offsite Traffic Noise

No feasible measures are available for the project applicant to reduce offsite traffic noise.

Mesa Marin Raceway

No feasible measures are available for the project applicant to reduce noise levels from the Mesa Marin Raceway to less than L_{50}-55 dBA.

5.4.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Onsite project traffic noise impacts in the years 2010 and 2020 will be less than significant after the implementation of the above mitigation measure (N-2).

Significant off-site project traffic noise impacts in the year 2010 will occur along SR 178 and in the year 2020 will occur along Fairfax Road, Masterson Street, and Paladino Drive. Usually, there are no feasible means to mitigate off-site traffic noise. Substantial increases in off-site traffic noise are directly related to substantial increases in traffic volumes caused by development, and are, therefore, considered an unavoidable adverse significant impact.

There are no mitigation measures that can be applied on the project site that will effectively reduce noise from the Mesa Marin Raceway to levels that satisfy the 2010 General Plan compatibility criteria. Sound walls could be constructed along the perimeter of the site, but, at best, they would reduce noise only at residences adjacent to the sound wall. Any effective mitigation measures would have to be applied at the raceway itself, such as berms or walls. Even if additional berms or walls were constructed at the raceway, it is not certain that they would substantially reduce noise impacts.

A Conditional Use Permit (C.U.P.) approved January 25, 1995 for the Mesa Marin Raceway indicates that noise from the raceway will be reduced to satisfy certain conditions specified in the C.U.P. The applicant for the C.U.P. has complied with all of the conditions of approval regarding noise reduction.

Raceway noise is, therefore, considered to be a significant unavoidable adverse impact.

5.5 AIR QUALITY

This section describes the potential impact on air quality resulting from the proposed project. Information contained herein summarizes the Air Quality Impact Study prepared by WZI, Inc. in February 2000. The study can be found in its entirety in Appendix E of this document.

5.5.1 EXISTING CONDITIONS

The project site is located in the San Joaquin Valley Air Basin, within the City of Bakersfield, and within the jurisdiction of the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD). The topography of the air basin includes foothills and mountain ranges to the east, west, and south, and a relatively flat valley floor. The valley is characterized by long, hot, dry summers and short, foggy winters. The features of the valley produce climate episodes such as frequent temperature inversions. The topography of the project site is generally flat ranging in elevation from 690 feet to 754 feet above mean sea level, as shown on the U. S. Geological Survey topographical map, Oil Center, California, Quadrangle.

State and National Ambient Air Quality Standards

National Ambient Air Quality Standards (NAAQS) are assigned as the result of provisions of the Federal Clean Air Act. The NAAQS establish acceptable pollutant concentrations which may be equaled continuously or exceeded only once per year. California Ambient Air Quality Standards (NAAQS) are limits set by the California Air Resources Board (CARB) that cannot be equaled or exceeded. An air pollution control district must prepare an Air Quality Attainment Plan (AQAP) if the standards are not met. The California and National Ambient Air Quality Standards are shown in Table 5.5-1.

TABLE 5.5-1
STATE AND FEDERAL
AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards		National Standards		
		Concentration	Method	Primary	Secondary	Method
Ozone	1 hour	0.09 ppm (180 Φg/m^3)	Ultraviolet Photometry	0.12 ppm (235 Φg/m^3)	Same as Primary Std	Ethylene-Chemilumi-nescence
Carbon Monoxide	8 hour	9.0 ppm (10 Φg/m^3)	Non-Dispersive Infrared Spectroscopy (NDIR)	9 ppm (10 Φg/m^3)		Non-Dispersive Infrared Spectroscopy (NDIR)
	1 hour	20 ppm (23 Φg/m^3)		35 ppm (40 Φg/m^3)		
	Annual Average			0.053 ppm (100 Φg/m^3)		

TABLE 5.5-1
STATE AND FEDERAL
AMBIENT AIR QUALITY STANDARDS (CONTINUED)

Pollutant	Averaging Time	California Standards		National Standards		
		Concentration	Method	Primary	Secondary	Method
Nitrogen	1 hour	0.25 ppm (470 Φg/m^3)	Gas Phase Chemilumi	80 Φg/m^3	Same as	Gas Phase Chemilumi-
	Annual Average			(0.03 ppm)		
	24 hour	0.04 ppm (105 Φg/m^3)		365 Φg/m^3 (0.14 ppm)		
	3 hour				1300 Φg/m^3 (0.5 ppm)	
Sulfur Dioxide	1 hour	0.25 ppm (655 Φg/m^3)	Ultraviolet Fluorescence			Pararosaniline
Suspended Particulate Matter (PM_{10})	Annual Geometric Mean	30 Φg/m^3	Selective Inlet High Size Volume Sampler And Gravimetric Analysis			Inertial Separation and Gravimetric Analysis
	24 hour	50 Φg/m^3		150 Φg/m^3		
	Annual Arithmetic Mean			50 Φg/m^3	Same as Primary Std	
Sulfates	24 hour	25 Φg/m^3	Turbidimetric Barium Sulfate			
	30-day Average	1.5 Φg/m^3				
Lead	Calendar Quarter		Atomic Absorption	1.5 Φg/m^3	Same as Primary Std	Atomic Absorption
Hydrogen Sulfide	1 hour	0.03 ppm (42 Φg/m^3)	Cadmium Hydr-Oxide Stractan			
Vinyl Chloride (chlorothen)	24 hour	0.010 ppm (26 Φg/m^3)	Tedlar Bag Collection, Gas Chromatography			
Visibility Reducing Particles	8 hour (10 am to 6 pm, PST)	In sufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70 percent. Measurement in accordance with ARB Method V.				

Source: WZI, Inc., 2000

The five directly emitted primary pollutants are carbon monoxide (CO), nitrogen oxides (NO_x), sulfur oxides (SO_x), reactive organic gases (ROG) and particulates (PM). Ozone (O_3) is considered a secondary pollutant because it forms from reactions involving NO_x and ROG. The following is a summary of the characteristics of the primary and secondary pollutants.

Ozone (O_3): Ozone is a pungent, colorless toxic gas. Ozone makes up 90 percent of the group of pollutants known as photochemical oxidants. Ozone and other photochemical oxidants are products of atmospheric reaction of nitrogen oxides and reactive organic gases with ultraviolet light. High ozone levels can adversely affect plants, and in humans, can cause respiratory irritation.

Carbon Monoxide (CO): Carbon monoxide is an odorless, colorless toxic gas produced by incomplete combustion of carbon-containing substances. Carbon monoxide interferes with the transfer of fresh oxygen from blood into body tissues.

Nitrogen Oxides (NO_x): Nitrogen oxides are formed from nitrogen and oxygen at high combustion temperatures and further reacts to form other oxides of nitrogen such as nitrogen dioxide. Nitrogen dioxide reacts with ultraviolet light to initiate reactions producing photochemical smog, and it reacts in air to form nitrate particulates. Nitrogen dioxide significantly affects visibility.

Sulfur Oxides (SO_x): Sulfur dioxide is a colorless, pungent gas primarily formed by combustion of sulfur-containing fossil fuels. High sulfur dioxide concentrations irritate the upper respiratory tract, while low concentrations of sulfur dioxide injure lung tissues. Sulfur oxides can react to form sulfates which significantly reduce visibility.

Particulates (PM_{10}): Dust, aerosols, soot, mists, and fumes make up atmospheric particulates. Sources of particulates include industrial and agricultural operations, combustion and photochemical actions of pollutants in the atmosphere. Particulates substantially reduce visibility and adversely affect the respiratory tract. PM_{10} is made up of finely divided particulate matter less than 10 microns in diameter.

Reactive Organic Gases (ROG): Organic compounds are made primarily of carbon and hydrogen. Motor vehicle emissions and evaporation of organic compounds produce hydrocarbon emissions. Hydrocarbon levels can affect plant growth. Hydrocarbon react in the atmosphere to form photochemical smog.

Regional Setting

The SJVUAPCD has jurisdiction in eight counties located in the San Joaquin Valley, including the Bakersfield area. The San Joaquin Valley Air Basin has been designated as an attainment area for carbon monoxide, and non-attainment for ozone and particulate matter (PM_{10}) by federal standards and California standards. The California Clean Air Act (CCAA) requires that all reasonable stationary and mobile source control measures be implemented in moderate non-attainment areas to help achieve a

mandated, 5-percent per year reduction in ozone precursors, and to reduce population exposures. Table 5.5-2 contains ambient air quality classifications for the Bakersfield area.

TABLE 5.5-2
AMBIENT AIR QUALITY CLASSIFICATIONS
PROJECT AREA OF THE SAN JOAQUIN VALLEY

Pollutant	**State**	**Federal**
Carbon Monoxide	Attainment	Attainment
Ozone	Non-Attainment/Serious	Non-Attainment/Serious
Oxides of Nitrogen	Attainment	Attainment/unclassified
Sulfur Dioxide	Attainment	Attainment/non-attainment
Particulate	Non-Attainment	Non-Attainment/Serious
Source: WZI, Inc., 2000.		

Local Setting

The closest air monitoring station to the project site is the Bakersfield station on Golden State Highway. The station monitors particulates, ozone, carbon monoxide, nitrogen oxide, sulfur oxide, total hydrocarbons, and methane.

Table 5.5-3 contains the maximum pollutant levels detected during 1997 and 1998 (the latest data available).

TABLE 5.5-3
MAXIMUM POLLUTANT LEVELS AT THE BAKERSFIELD,
GOLDEN STATE HIGHWAY MONITORING STATION

Pollutant	Time Averaging	1998 Maximums	1997 Maximums	Standards	
				National	State
Ozone (O_3)	1 hour	0.132 ppm	0.117 ppm	0.12 ppm	0.09.ppm
Carbon Monoxide (CO)	8 hour	3.11 ppm	2.91 ppm	9 ppm	9 ppm
Nitrogen Dioxide (NO_2)	1 hr	0.097 ppm	0.076 ppm		0.25 ppm
	Annual	0.024 ppm	0.024 ppm	0.053 ppm	
Particulates (PM_{10})	24 hour		124 Φg/m^3	150 Φg/m^3	50 Φp/m^3
Source: WZI, Inc., 2000.					

5.5.2 PROJECT IMPACTS

The potential for air quality impacts of the proposed project have been analyzed using emission factors developed by the SJVUAPCD, CARB, and the EPA. Short-term air quality impacts may result from exhaust emissions and ROG emissions from the use of heavy equipment, worker vehicles, and haul trucks. PM_{10} impacts associated with airborne dust may occur during site grading and soil movement.

The greatest source of operational impacts will be emissions resulting from motor vehicles traveling to and from the area. Additional long-term impacts include stationary sources of emissions associated with the generation of electricity for onsite use and the combustion of natural gas for space and water heating.

Thresholds of Significance

CEQA and the SJVUAPCD have established air pollution thresholds for projects to be evaluated and assist lead agencies in determining whether or not a project is significant.

CEQA Significance Thresholds

Appendix G of the California Environmental Quality Act (CEQA) states that a significant effect on air quality would occur when a project would:

- Conflict with or obstruct implementation of the applicable air quality plan
- Violate any air quality standard of contribute substantially to an existing or projected air quality violation
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard
- Expose sensitive receptors to substantial pollutant concentrations
- Create objectionable odors affecting a substantial number of people

SJVUAPCD Significance Thresholds

The SJVUAPCD has established criteria for determining the significance of two pollutant emissions. Projects that emit the following precursor emissions of ozone above the following thresholds would normally be considered significant.

- Reactive Organic Gases (ROG) – 10 tons/year
- Oxides of Nitrogen (No_x) – 10 tons/year

The SJVUAPCD does not currently require quantification of PM_{10} emissions. However the SJVUAPCD does require strict compliance with the SJVUAPCD's Fugitive Dust Control rules (Regulation VIII). The rules contained in Regulation VIII are listed below:

- Rule 8010 – Fugitive dust administrative requirement for control of fine particulate matter.

- Rule 8020 – Fugitive dust requirements for control of fine particulate matter from construction, demolition, excavation, and extraction activities.
- Rule 8070 – Fugitive dust requirements for control of fine particulate matter from vehicle and/or equipment parking, shipping, receiving, transfer, fueling, and service areas of one acre or larger.

Impacts

Short-Term Emissions

Emissions produced during grading and construction activities are "short-term" in the sense that they occur during construction only. However, the proposed project is anticipated to occur in phases extending for approximately 20 years. Construction of the proposed land uses would produce PM10, CO, ROG, NOx, and SOx.

Construction activities are a source of dust (PM10) emissions that can have a substantial temporary impact on local air quality. Fugitive dust emissions are associated with land clearing, ground excavation, cut and fill operations, and truck travel on unpaved roads. Dust emissions vary substantially from day to day, depending on the level of activity, the specific operations, and weather conditions. The SJVUAPCD does not currently require quantification of PM10 emissions. However, the SJVUAPCD does require strict compliance with the SJVUAPCD's Fugitive Dust Control rules (Regulation VIII). The rules contained in Regulation VIII are listed below:

- Rule 8010 – Fugitive dust administrative requirement for control of fine particulate matter.
- Rule 8020 – Fugitive dust requirements for control of fine particulate matter from construction, demolition, excavation, and extraction activities.
- Rule 8070 – Fugitive dust requirements for control of fine particulate matter from vehicle and/or equipment parking, shipping, receiving, transfer, fueling, and service areas of one acre or larger.

In addition to SJVUAPCD regulations, the City of Bakersfield has the following requirements identified in the zoning regulations.

- Water sprays or chemical suppressants must be in all unpaved areas to control fugitive emissions.
- All access roads and parking areas must be covered with asphalt-concrete paving.

After strict compliance with SJVUAPCD's Fugitive Dust Control Rules (Regulation VIII) and the City's air quality regulations, the proposed project would not result in significant PM10 impacts.

Construction activity will also result in exhaust emissions from diesel-powered heavy equipment. Exhaust emissions from construction include emissions associated with the transport of machinery and supplies to and from the site, emissions produced onsite as the equipment is used, and emissions from trucks transporting excavated materials from the site and fill soils to the site. Examples of these emissions include CO, ROG, NO_x, SO_x and PM_{10}. These exhaust emissions could be considered significant.

Long-Term Emissions

Long-term emissions will be caused by mobile sources (vehicle emissions) and stationary source energy consumption (heating and cooling) emissions. The major long-term impact to air quality will be emissions caused by motor vehicles traveling to and from the project site.

Mobile Source - Ozone Precursors

The Bakersfield area is a non-attainment area for federal air quality standards for ozone and particulates. Nitrogen oxides and reactive organic gases are regulated as ozone precursors. A precursor is defined by the SJVUAPCD as "a directly emitted air contaminant that, when released into the atmosphere, forms or causes to be formed or contributes to the formation of a secondary air contaminant for which an ambient air quality standard has been adopted..."

The predicted emissions associated with vehicular traffic (mobile sources) are not subject to the SJVUAPCD's permit requirements, however, the SJVUAPCD is responsible for overseeing efforts to improve air quality within the San Joaquin Valley. The SJVUAPCD has prepared an AQAP to bring the San Joaquin Valley into compliance with the California Ambient Air Quality Standard for ozone. The SJVUAPCD reviews land use changes to evaluate the potential impact on air quality.

Vehicle emissions have been estimated for the year 2020 (expected completion date of this project) using the URBEMIS7G computer model from the California Air Resources Board. This model predicts carbon monoxide, total hydrocarbons, nitrogen oxide, sulfur oxide and particulate matter emissions from motor vehicle traffic associated with new or modified land uses. Appendix E contains the URBEMIS7G modeling results.

The predicted annual tailpipe emissions (Table 5.5-4) for reactive organic gases and nitrogen oxides attributable to this project are considered significant, based on the SJVUAPCD's levels of significance as summarized below:

TABLE 5.5-4
PROJECT-RELATED MOBILE SOURCE EMISSIONS – OZONE PRECURSORS

Pollutant	Reactive Organic Gas (tons/year)	Nitrogen Oxides (tons/year)	Carbon Monoxide (tons/year)	PM_{10} (tons/year)
Residential – Low Density	20.53	48.90	188.19	24.81
Residential – High Density	6.32	12.87	49.55	6.53
Commercial	20.49	61.48	204.75	30.27
Total	47.34	123.25	442.49	61.61
Level of Significance	10	10	N/A	N/A
N/A – Not applicable because SJVUAPCD has not established thresholds of significance for these particulates.				
Source: WZI, Inc., 2000.				

As shown, mobile source emissions would exceed the significant thresholds for ROG and NOx.

Mobile Source - Carbon Monoxide

Carbon monoxide emissions are a function of vehicle idling time and, thus, under normal meteorological conditions depend on traffic flow conditions. Carbon monoxide transport is extremely limited: it dispenses rapidly with distance from the source. Under certain extreme meteorological conditions, however, CO concentrations close to a congested roadway or intersection may reach unhealthful levels, affecting sensitive receptors (residents, school children, hospital patients, the elderly, etc.). Typically, high CO concentrations are associated with roadways or intersections operating at an unacceptable Level of Service (LOS). CO "Hot Spot" modeling is required if a traffic study reveals that the project will reduce the LOS on one or more streets to E or F; or, if the project will worsen an existing LOS F.

A traffic study was prepared by Crenshaw Traffic Engineering for the City in the Hills project (refer to Section 5.3 and Appendix C). The study indicates that the predicted LOS, after mitigation, does not warrant a CO Hot Spot analysis.

Area Source Emissions

Area source emissions result from fuel and personal product use. Electricity and natural gas are utilized by almost every commercial and residential development. The URBEMIS7G computer model predicted the following emissions from natural gas usage and landscape maintenance. The numbers shown below are from typical energy consumption and do not include fireplaces and consumer products such as hairspray.

TABLE 5.5-5
AREA SOURCE EMISSIONS

Source	ROG Ton/year	NO_x Ton/year	CO Ton/year	PM_{10} Ton/year
Natural Gas	1.17	15.31	6.47	0.03
Landscaping	0.33	0.04	2.85	0.01
Total	1.50	15.35	9.32	0.03
Significance Level	10	10	N/A	N/A
Source: WZI, Inc., 2000				

As shown, area source emissions would result in significant air quality impact related to NOx emissions.

Potential Effect on Sensitive Receptors

The air quality impact of this project is not likely to affect sensitive receptors. Sensitive receptors are areas where young children, chronically ill individuals, or other individuals more sensitive than the general population are located. Examples of sensitive receptors are schools, day care centers and hospitals.

The nearest receptor is Chavez School, which is located south of SR 184, approximately one-quarter mile from the project site.

Potential Impacts from Odors and Hazardous Air Pollutants

The project consists of a mixture of residential and commercial land uses. The generation of odors and hazardous air pollutants is generally associated with certain types of industrial and agricultural activities. These activities are not included in the proposed project, therefore, the project is not expected to result in the generation of odors or hazardous air pollutants.

Conformity With The Air Quality Attainment Plan

The California Clean Air Act requires non-attainment districts with severe air quality problems to provide for a 5 percent reduction in non-attainment emissions per year. The SJVUAPCD prepared an AQAP for the San Joaquin Valley Air Basin in compliance with the requirements of the Act. The plan requires best available retrofit technology on specific types of stationary sources to reduce emissions. The CCAA and the AQAP also identify transportation control measures as methods of reducing emissions from mobile sources. The CCAA defines transportation control measures as, "any strategy to reduce vehicle trips, vehicle use, vehicle miles traveled, vehicle idling or traffic congestion for the

purpose of reducing motor vehicle emission." The AQAP for the San Joaquin Valley Air Basin identifies the provisions to accommodate the use of bicycles, public transportation and traffic flow improvements as transportation control measures.

The emissions of reactive organic gases and nitrogen oxides predicted by the model exceed the SJVUAPCD's interim threshold levels. However, Golden Empire Transit (GET) provides public (bus) transportation in the Bakersfield metropolitan area. The project area is undeveloped, therefore, is not currently served by GET. However, GET does provide service to the general area. The project could easily be serviced by GET upon completion.

A Traffic Impact Study was prepared by Crenshaw Traffic Engineering to evaluate impacts on the surrounding local roadway system due to traffic generated by the proposed development (refer to Section 5.3 and Appendix C). The Traffic Impact Study recommends mitigation measures such as street improvements and traffic signals for intersections and street segments which fall below an acceptable Level of Service due to the impact of future traffic. The study allocates a proportionate share of the mitigation measures to the project. The proposed mitigation measures are traffic flow improvements, which are recognized transportation control measures in compliance with the AQAP.

The AQAP recognized growth of the population and economy within the Air Basin. The plan predicted the workforce in Kern County to increase 40 percent and housing to increase 30 percent from 1990 to 2000. This project can be viewed as growth that was anticipated by the plan.

5.5.3 CUMULATIVE IMPACTS

The development of the proposed project with other development reflected by a 3 percent growth annual rate would produce a cumulative air quality impact. Cumulative emissions would be produced by stationary and mobile sources. Specifically, buildout of the proposed project, in conjunction with a 3 percent annual growth rate would generate natural gas consumption emissions in excess of the SJVUAPCD-recommended threshold for NOx. Cumulative development would generate mobile source emissions in excess of SJVUAPCD-recommended thresholds for ROG and NOx. Since the proposed project would contribute to the exceedance of SJVUAPCD thresholds, the project would contribute substantially to a cumulative significant air quality impact.

5.5.4 MITIGATION MEASURES

Fugitive Dust Emissions

The construction of the proposed project would result in the generation of fugitive dust. Compliance with SJVUAPCD Regulation VIII and the City of Bakersfield air quality regulations would result in

no significant fugitive dust emissions. To ensure compliance, the following measure shall be implemented.

AQ-1 Prior to approval of a grading plan for any residential tract, multiple family project, and commercial project, the project applicant shall submit a letter to the City of Bakersfield Planning Department from the SJVUAPCD stating the dust suppression measures that shall be completed during construction activities to comply with SJVUAPCD Regulation VIII.

In addition to compliance with Regulation VIII, the following shall be implemented incorporated into building plans measures can further reduce fugitive dust emissions associated with the project.

AQ-2 The following shall be incorporated into building plans.

- Cover all access roads and parking areas with asphalt-concrete paving.
- Asphalt-concrete paving shall comply with SJVUAPCD Rule 4641 and restrict the use of cutback, slow-cure and emulsified asphalt paving materials.
- Use water sprays or chemical suppressants on all unpaved areas to control fugitive emissions.
- Enclose, cover or water all stockpiled soils to reduce fugitive dust emissions.
- Cease grading activities during periods of high winds (greater than 20 mph over a one-hour period).
- Limit construction-related vehicle speeds to 15 mph on all unpaved areas at the construction site.
- All haul trucks should be covered when transporting loads of soil.
- Wash off construction and haul trucks to minimize the removal of mud and dirt from the project sites.

Construction Equipment Exhaust Emissions

AQ-3 Prior to the issuance of a grading permit, the following shall be incorporated into the grading plan.

- Properly and routinely maintain all construction equipment, as recommended by manufacturer manuals, to control exhaust emissions.
- Shut down equipment when not in use for extended periods of time to reduce emissions associated with idling engines.
- Encourage ride sharing and use of transit transportation for construction employee commuting to the project sites.

- Use electric equipment for construction whenever possible in lieu of fossil fuel-fired equipment.

Mobile Source Emissions

AQ-4 Prior to issuance of a building permit, transportation control measures and design features shall be incorporated into the project to reduce emissions from mobile sources. A strategy to reduce vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, and traffic congestion includes the following:

- Improve street and traffic signals for those intersections and street segments that the proposed project contributes traffic.

Energy Consumption Emissions

AQ-5 The project applicant shall incorporate the following in building plans.

- Use low-NO_x emission water heaters.
- Provide shade trees to reduce building cooling requirements.
- Install energy-efficient and automated air conditioners.
- Exterior windows shall all be double-paned glass.
- Energy-efficient (low-sodium) parking lights shall be used.
- Use EPA-approved wood burning stoves, fireplace inserts or pellet stoves in lieu of conventional fireplaces.

5.5.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the above mitigation measures would reduce adverse impacts during construction and operationa activities. However, emission levels subsequent to implementation of mitigation measures would continue to exceed significance thresholds for ROG and NOx.

5.6 CULTURAL RESOURCES

This section includes information from the Archeological Investigation prepared for the proposed project by Robert A. Schiffman in October 1999. The complete report is contained in Appendix F of this EIR. MBA prepared the analysis of paleontological resources.

5.6.1 EXISTING CONDITIONS

Archaeological/Historical

Data Sources

A records search was conducted at the San Joaquin Information Center in 1998 and updated in September 1999. The records search indicated that previous archeological surveys had been conducted in the general region. These earlier studies resulted in the identification of 10 archeological sites and a number of isolated artifacts though no remains are known to be immediately adjacent to the study area. The San Joaquin Information Center recommended that prior to development, a cultural resources investigation be preformed due to the general proximity of known resources. As a result of this recommendation in September and October 1999, Robert A. Schiffman conducted an onsite field survey in accordance with CEQA guidelines with the assistance of Stephen B. Andrews.

Natural Setting

The proposed project is located in the eastern portion of the City of Bakersfield. Although residential development has taken place to the north and the southeast, and roads and a racetrack are located adjacent to the property, the project area remains undeveloped. The few impacts to the land are minimal. The principal vegetation is sparse to moderate grass cover along with low brush.

The elevation varies from 690 feet to 754 feet above sea level with the land sloping downhill from the northeast to the southwest. The southern portion of the parcel is more irregular, with gently rolling areas cut by marginal run off channels. The northern and western portions are flatter. The soil is identified as a Pilo-Pleistocene non-marine deposit on the Bakersfield Geologic Sheet. In the southwest and western portions of the property are scattered pebbles, cobbles, and rocks, mostly granitic in origin, though there are some sedimentary and meta-sedimentary rocks also onsite.

Although marginal and seasonal channels are present, there is no evidence that a usable or reliable source of fresh water existed on the property.

Area History

The aboriginal population that occupied the general region were the Yokuts. The Yokuts lived in variable sized communities throughout the San Joaquin Valley and the foothills. Their subsistence level was based on hunting and gathering, with small groups of people moving throughout their territorial range on a seasonal basis. Various plants were collected, animals trapped and hunted, and shellfish collected from the sloughs of the marsh areas. Principal villages were located in close proximity to sources of fresh water. Day use areas, seasonal camps or hunting-kill sites could be found throughout their territory, as a result of various activities engaged in by this culture. There are no known villages reported within or adjacent to the project area.

Archeological/Historical Resources

According to the archeological record files, six archeological sites and three isolated artifacts were found and recorded within a one-mile radius of the project site but none were recorded within the project area.

The on-site field survey conducted in September and October 1999 identified two archeological sites and eight isolated artifacts. Neither archeological site appeared to contain buried cultural deposit and the isolated artifacts consisting of stone flakes and small cores are not considered to be formal tools or significant cultural resources.

Paleontological Resources

Data Sources

The paleontologic assessment included an archival records check at the Los Angeles County Museum of Natural History (LACM), which included the collections data of the (1) University of California, Los Angeles, (2) California Institute of Technology, and (3) University of California Museum of Paleontology (Berkeley). Pertinent geologic and paleontologic literature was searched and reviewed.

Geology and Paleontology

Sedimentary rock units that may be encountered in the project area are the Round Mountain Silt Member of the Temblor Formation (marine; upper Miocene), Chanac Formation (nonmarine, upper Miocene), "Santa Margarita" Formation (marine, upper Miocene), Kern River Formation (nonmarine; upper Miocene, Pliocene, and early Pleistocene), and Quaternary terrace deposits (nonmarine; upper Pleistocene-Holocene). Following is a discussion of each rock unit. Only the Round Mountain Silt appears to have significant paleontologic resources in this particular area.

Quaternary Alluvium/Terraces (Upper Pleistocene-Holocene)

These stream deposits comprise most of the designated map area, particularly in the southern part. Fossil occurrences in Quaternary alluvium are very spotty; elsewhere stream deposits have yielded significant finds of mammoth, mastodon, bison, bear, lion, camel, horse, reptiles, birds, ground sloths, insects, and plants. Such discoveries are highly significant, but their infrequent occurrence suggests this unit has low paleontologic sensitivity.

Kern River Formation (upper Miocene, Pliocene, and early Pleistocene)

This unit consists of fluvio-lacustrine gravels, sands, and clays, and is described in detail by Bartow and Pittman (1983). It is exposed at high elevations in the northern half of the project area. Although there is potential to recover a diversity of significant terrestrial and freshwater fossils, the paleontologic sensitivity of these sediments is generally low.

Chanac and "Santa Margarita" Formations (upper Miocene)

The nonmarine Chanac Formation, which is distinguished by its buff to brown color, overlies the marine white sandstone of the "Santa Margarita" Formation. In the Tejon Hills, the Chanac has yielded terrestrial vertebrates (Merriam, 1916) and the "Santa Margarita" bears late Miocene mollusks (Addicott, 1970). In the Kern River area, however, these formations appear to be nonfossiliferous. Thus, their paleontologic sensitivities at the project site are probably low.

Round Mountain Silt Member, Temblor Formation (middle Miocene)

The Round Mountain Silt is the youngest member of the Temblor Formation. Microfossil and strontium isotope data indicate that the Round Mountain Silt ranges from approximately 15.9 to 14 Ma in this area (Olson, 1990). It is of particular paleontologic importance because its upper part includes the famous Sharktooth Hill bonebed. The bonebed ranges from four inches to nearly three feet in thickness, and is generally about a foot thick. One cubic foot of sediment may contain over 100 individual bones and teeth! It's vertebrate fauna of more than 100 species includes boney fish, cartilaginous fish (especially shark teeth), turtles, crocodiles, birds, sea lions, whales, and desmostylians (an extinct hippo-like aquatic mammal), and terrestrial mammals such as tapir, horses, camel, "giraffe", mastodon, and rhinoceros. At Sharktooth Hill, six miles northwest of the project area, the bonebed crops out at elevation 643 feet. It is known as "probably the most significant Miocene marine vertebrate locality in the world", and it is listed in the United States Landmark Registry. The bonebed extends over ten square miles from north of Poso Creek to south of the Kern River. In the vicinity of the project site, the unit is well exposed in the bluffs facing the Kern County Soccer Park, where it has been extensively quarried for fossils. In addition to

vertebrates, important invertebrate fossils have been recovered from the Round Mountain Silt in this region. The "Barker's Ranch fauna", the largest Miocene molluscan fauna of the Pacific Coast, extends from near the base of the Olcese Sand Member to the top of the Round Mountain Silt, and is the standard for the Temblor Mmacrofossil Stage. All considered, the paleontologic sensitivity of the Round Mountain Silt in this area is extremely high.

5.6.2 PROJECT IMPACTS

Thresholds of Significance

If a proposed "project may cause damage to an important archaeological resource, the project may have a significant effect on the environment". Historical resources are considered to be significantly affected if a structure is, or potentially is, a designated historic resource. Impacts on paleontological resources are considered significant if a project may cause damage to an important peleontological resource.

Impacts

Archeological/Historical Resources

Due to the size of the site and the project's proximity to known prehistoric remains, the identification of archeological resources within the project area is not unusual. Likewise, the nature and marginal quality of the remains is not unusual considering the distance from water, the exposed nature of the property, and the lack of significant plant or other important resources.

Although two archeological sites were recorded in the project area during the field visit, the type, quantity, and quality of remains paired with the physical characteristics of the project area indicate that each site was a result of a single, one-time only activity. While it is possible that additional archeological remains may be present within the project area, it is unlikely that there are significant remains to be found. It is also possible that past grading may have occurred, thereby disturbing or destroying additional sites, though the potential for large and significant sites being present within the project area is minimal.

Paleontological Resources

Based on a records search, several vertebrate fossil localities are on the south side of the Kern River, and numerous other localities are in correlative strata in the hills north of the Kern River. The most recent localities include three major quarries in the Sharktooth Hill bonebed made in late 1981 by LACM and Kern County Museum. This bonebed, which is usually less than a foot thick, is within the upper part of the Round Mountain Silt at elevations between 600 and 700 feet. On the south side of the river, many

thousands of vertebrate fossils were recovered from the almost 40 square meters of bonebed excavated at one locality. Two fossil baleen whales were discovered just above the bonebed at another LACM locality nearby.

The Sharktooth Hill bonebed is probably the most significant Miocene marine vertebrate locality in the world. It extends more than 10 square miles and has yielded a vertebrate fauna of more than 100 species includes boney fish, cartilaginous fish (especially shark teeth), turtles, crocodiles, birds, sea lions, whales, and desmostylians (an extinct hippo-like aquatic mammal), and terrestrial mammals such as tapir, horses, camel, "giraffe", mastodon, and rhinoceros. The "Barker's Ranch fauna", the largest Miocene molluscan fauna of the Pacific Coast, extends from near the base of the Olcese Sand Member to the top of the Round Mountain Silt in this area, and is the standard for the Temblor Macrofossil Stage. All considered, the paleontologic sensitivity of the Round Mountain Silt in this area is extremely high.

The project area consists of Section 17, part of SE¼ Section 18, and small parts of section 19 and 20 where elevations range within the interval of 680 and 760 feet. The Chanac Formation and Kern River Series crop out in the northeastern half of the site, but are obscured by a veneer of Quaternary terrace deposits in the southeastern half. The lowest elevations, where the upper part of the Round Mountain Silt may be exposed, are encountered along the natural drainage in the south part of the SW¼ of Section 17 and northwest corner of section 20 between elevations 600 feet and 700 feet. These exposures may include the highly sensitive Sharktooth Hill bonebed.

5.6.3 CUMULATIVE IMPACTS

The proposed project and future projects associated with General Plan buildout are located in an area known to contain cultural resources. Therefore, implementation of the project and other projects could potentially result in significant cumulative impacts to cultural resources. However, with implementation of the mitigation measures provided below, the potential cumulative impacts to cultural resources could be reduced to a level considered less than significant.

5.6.4 MITIGATION MEASURES

Archaeological/Historical Resources

No impacts on known archaeological or historical resources are anticipated; however, the following mitigation measures will be required for development within the boundaries of the project site to minimize potential disturbance to any as yet undiscovered resources that may be encountered during construction activity.

CR-1 If cultural resources are unearthed during construction activities, all work shall be halted in the area of the find. A qualified archaeologist shall be called in to evaluate the findings and recommend any necessary mitigation measures. Proof of compliance with any recommendations resulting from such evaluation, if required, shall be submitted to the Southern San Joaquin Valley Archaeological Information Center (AIC) at California State University, Bakersfield, and to the City of Bakersfield Development Services Department.

Paleontological Resources

A paleontological monitoring program that includes the following measures shall be implemented to reduce potential impacts on the Sharktooth Hill bonebed.

CR-2. Prior to grading, a paleontologist shall be retained, attend a pre-grading meeting, and set forth the procedures to be followed during the monitoring program.

CR-3. One paleontological monitor that is trained and equipped to allow rapid removal of fossils with minimal construction delay is expected to be sufficient. Full-time monitoring of the portions of the project site that have earth-disturbing activities at elevations between 600 feet and 700 feet shall be provided.

CR-4. If fossils are found within an area being cleared or graded, earth-disturbing activities shall be diverted elsewhere until the monitor has completed salvaging of the fossils. If construction personnel make the discovery, the grading contractor shall immediately divert construction and call the monitor to the site. Major salvage time may be shortened by grading contractor's assistance (e.g., removal of overburden, lifting and removing large and heavy fossils).

CR-5. The project paleontologist shall prepare, identify, and curate all recovered fossils. Upon completion of grading, the project paleontologist shall prepare a summary report documenting mitigation and results, with itemized inventory of collected specimens. The paleontologist shall submit the report to the City of Bakersfield, designated depository, and any other appropriate agency, and transfer fossil collection to an appropriate depository. The summary report shall be submitted to the City. This submittal will signify completion of the program to mitigate impacts on paleontologic resources.

5.6.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION

After implementation of the above mitigation measure, impacts to cultural resources would not be significant.

5.7 HAZARDOUS MATERIALS COMPLIANCE

This section provides baseline information pertaining to hazardous materials impacts within the project area. To determine the presence of suspected or known hazardous waste contamination sites within the project area several documents were reviewed. The documents can be found in Appendix G of this EIR and are as follows:

- Phase I Environmental Site Assessment (ESA) for the SE ¼ of SE ¼ Section 18, T29S, R29E in Bakersfield, California
- Section 17 and Section 20 Closure Letter Report
- Site Assessment Report for the Northeast Bakersfield Water Service Area

5.7.1 EXISTING CONDITIONS

Hazardous Materials Evaluation And Setting

The term "hazardous material" refers to both hazardous substances and hazardous waste. A material is defined as hazardous if it appears on a list of hazardous materials prepared by a federal, state or local regulatory agency or if it has characteristics defined as hazardous by such agency. A hazardous waste is a "solid waste" that exhibits toxic or hazardous characteristics. The U.S. Environmental Protection Agency (EPA) has defined the term "solid waste" to include many types of discarded materials, including: any gaseous, liquid, semi-liquid, or solid material which is discarded or has served its intended purpose, unless the material is specifically excluded from regulation. Such materials are considered wastes whether they are discarded, reused, recycled, or reclaimed. The EPA classifies a material as a hazardous material if it has one or more of the following properties:

- Ignitability. Oxidizers, compressed gasses, and extremely flammable liquids and solids.
- Corrosivity. Strong acid and bases.
- Reactivity. Explosives or generate toxic fumes when exposed to air or water.
- Toxicity. Materials listed by EPA as capable of inducing systemic damage in humans or animals.

To determine the presence of and potential for hazardous materials and/or waste contamination on the project site from existing onsite uses, a hazardous materials and waste analysis was conducted. This analysis included a cursory review of historic and existing onsite land uses and their associated activities.

The analysis also included a review of federal, state, and local agency's data bases of reported (suspect and/or known) hazardous materials and waste contamination sites located within the project site.

Based on a review of aerial photographs of the site for the years 1937, 1956, 1974, and 1992, the project area has historically been utilized both for the purpose of agricultural and oil production. Agricultural uses included both crops and cattle ranching-related activities. Oil production has and is presently occurring throughout the project area. Moreover, the vicinity of the proposed project, in addition to, all of Kern County, has been experiencing rapid growth for the past decade. Development could potentially encroach on locations where hazardous materials and wastes related to agricultural and oil production are currently taking place or were handled and/or disposed. As a result, sensitive receptors, such as residences, may be exposed to a variety of public health and safety hazards.

The following is a discussion of potential sources of hazardous materials and/or waste contamination that have been identified within the immediate vicinity of the project site.

Existing Setting of the Property

In 1998, a Phase I ESA was performed for the SE ¼ of the SE ¼ of Section 18 (the 40.0 acres of the project site) by Soils Engineering, Inc. The Phase I ESA was conducted to determine if the subject property has been environmentally affected by hazardous materials and/or toxic substances due to current and/or former activities onsite and on the surrounding properties.

A Phase I ESA comprises a number of individual elements whose basic nature and extent are determined in accordance with the standard of care applicable to Phase I ESAs. The standard of care is commonly defined as the care applied by the ordinary practitioner at the time and in the area where the ESA was preformed. The Phase I ESA performed complied with the applicable practices and service scope elements recommended by the American Society for Testing and Materials. It should be noted that a Phase I ESA does not include subsurface testing and, while in accordance with a Phase I ESA, invasive testing was not conducted. However, it should be noted that no technique invasive or noninvasive can eliminate the potential for risk all together.

According to the Phase I ESA, there is very low potential that hazardous materials have contaminated this portion of the project site. More specifically, this site has been vacant since at least 1937. Currently, there are no permanent structures onsite and the site may have been used for grazing. The majority of this portion of the site consists of rolling grasslands and a few dirt roads with patches of dirt and scattered rocks. A subsurface fault has been mapped in the area of the southwest section of the portion of the project site. Oilfield activities have occurred on properties to the west; however, it appears that these activities have not affected this portion of the project site. Additionally, within a one-mile radius of the site, no current

activities were found which process, store, or transport hazardous materials in sufficient quantity or in a manner that might have a measurable effect on the environmental integrity of the site. Overall, the Phase I ESA indicated that there were no suspected hazardous materials observed during the Phase I ESA and further assessments were not recommended for this portion of the project site.

According to the Section 17 and Section 20 Closure Letter Report on the remaining majority of the project site, a Phase I ESA was also conducted for both Sections 17 and 20. The Phase I ESA found that there was no indication of environmental concerns in regards to Section 20. A Phase II ESA was conducted in Section 17 due to the presence of hydrocarbon stained soils and the presence of a white chalky substance, possibly calcium carbonate. Remediation activities, including well reabandonment and excavation of the suspicious soils occurred between August and September of 1993. There is a total of six plugged and abandoned wells within the project boundary, all located within Section 17.

Well reabandonment activities in Section 17 included infill, installation of cement cappings listing the well operator and the well number, and the plating and identification of casings. In addition, the suspicious soils were excavated and transported to Chevron's Road Mix Facility and recycled for use as road mix on Chevron Roads. Likewise, stained cement and piping located within Section 17 were transported offsite to Chevron's MCI junkpile located in Section 5, T29S, R28E in Bakersfield. All six plugged and abandoned wells onsite meet the Department of Conservation's Division of Oil, Gas, and Geothermal Resources current requirements for well plugging and abandonment.

The remaining 8.9 acres of the project area are located in Section 19. This area was previously surveyed in July of 1998 by VISTA Information Services. VISTA conducted a computerized database search of various governmental lists. The VISTA search included all databases pursuant to Governmental Code Section 65962.5 (CEQA, Cal. Pub. Resources Section 21092.6) as required of lead agencies by CEQA. In addition, VISTA consulted various federal (U.S. EPA) and local (Kern County Environmental Health) hazardous waste site lists.

A review of the various lists indicated that there are no sites that are considered a hazardous materials threat within the project's 8.9 acres of Section 19.

5.7.2 PROJECT IMPACTS

Thresholds of Significance

A significant impact relative to public health and safety is considered to exist if the project would result in the exposure of people to risks beyond acceptable levels. Applicable laws and regulations (i.e. hazardous waste action levels) define such levels and relevant planning documents (i.e. General Plan Safety Element).

Impacts

Historical Use of Hazardous Materials and Waste

Implementation of the proposed project would not result in impacts associated with known and/or suspect hazardous materials. However, there is a potential that previously unknown hazardous materials contamination from historical use of this property onsite may be encountered or disturbance of abandoned or unrecovered oil wells during the project development activities. However, it should be noted that should such contamination be found or disturbance occur existing federal, state, and local policies and procedures would require the delineation and remediation of sites containing hazardous substances to the satisfaction of the designated local enforcement agency. Moreover, it is unlikely that any such contamination or disturbance would be extensive beyond the capacities of typical remediation measures. In addition, Phase I ESAs were conducted and when applicable, a Phase II ESA was conducted and remediation applied. Therefore, no significant impacts from former uses of the property are anticipated.

Future Use of Hazardous Materials and Waste

Implementation of the City in the Hills Project would introduce new land uses to the project area and hence would result in the additional use of hazardous materials and an increase in hazardous waste generated onsite. However, compliance with regulations, standards, and guidelines established by the EPA, state, county, and local agencies relating to the storage, use, and disposal of hazardous waste will reduce the potential risk of hazardous materials exposure to a level that is less than significant.

5.7.3 CUMULATIVE IMPACTS

Development of the proposed project and future development in accordance with the City's General Plan will cumulatively increase the population of the area. Compliance with federal, state, and local regulations concerning the storage and handling of hazardous materials and/or waste and the implementation project-related mitigation measures will reduce the potential for significant public health and safety impacts to occur. Therefore, the impact of the proposed project, in addition to future development within the City, is not expected to significantly impact the number of people exposed to public health and safety risks.

5.7.4 MITIGATION MEASURES

Although no significant hazardous materials compliance impacts are anticipated, the following mitigation measures are included to reduce any potential impacts associated with the project.

HMC-1 Prior to the issuance of grading permits, the grading plans shall specify that in the event that hazardous waste is discovered during site preparation or construction, the property owner/developer shall ensure that the identified hazardous waste and/or hazardous material is handled and disposed of in the manner specified by the State of California Hazardous Substances Control Law (Health and Safety Code, Division 20, Chapter 6.5) and according to the California Administrative Code, Title 30, Chapter 22.

HMC-2 The applicant shall handle and dispose of all hazardous materials and wastes during the operation and maintenance of facilities in accordance with the state codes.

HCM-3 Prior to the issuance of grading permits, the grading plans shall specify that in the event that any abandoned or unrecovered oil wells are uncovered or damaged during excavation or grading, remedial plugging operations will be required.

HCM-4 No structures are to be located over a previously plugged or abandoned well.

5.7.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the recommended mitigation measures would reduce potential hazardous material compliance impacts associated with the proposed project. No significant hazardous materials compliance impacts would occur with the project implementation.

5.8 PUBLIC SERVICES AND UTILITIES

This section provides baseline information on, and evaluates the impacts to public services and utilities, including fire and police protection, schools, solid waste disposal, electricity, natural gas, wastewater, and water services. Information in this section is based upon correspondence with the various public service providers having jurisdiction over the project site, and information contained in previous environmental documents per CEQA Guidelines Section 15150. Documents referenced in this section include *The Northeast Bakersfield Bike Path and Water Facilities Project EIR* (1998) and the *Metropolitan Bakersfield 2010 General Plan* (1990).

5.8.1 FIRE PROTECTION SERVICES

Existing Conditions

The City of Bakersfield Fire Department currently provides fire protection and emergency medical response services to the project site. The nearest fire station to the project site is located at 12100 Alfred Harrell Highway which is currently located approximately 6 roadway miles from the project site. This fire station provides primary response to the site and is equipped with two engines, one squad, one truck, and a Battalion Chief for structure fires, as well as one emergency medical vehicle outfitted with an emergency medical technicians defibrillator. In addition, private ambulance companies service the area. On a 24-hour basis, Station No. 10 is staffed with three personnel to respond to both fire and medical emergencies. Throughout the City, the available personnel at each station is three to eight personnel on a 24-hour basis (R. Fraze, 2000).

Response time to the project site from Fire Station No. 10 is nine minutes. This response time is 50 percent longer than the average response time throughout the City which is 6 minutes. The City also participates in a Joint Powers Agreement with the County of Kern so that their closest fire station (Fire Station #42 at Niles Street and Fairfax Road) would also respond to a fire or medical emergency.

The project site is located in an area designated as light fire hazard because the site is relatively flat and contains only grasses (R. Fraze, 2000). There are no fire hydrants on or directly adjacent to the project site.

Project Impacts

Thresholds of Significance

A project is considered to have a significant impact on fire and emergency services if the project will result in a substantial need for fire and medical emergency assistance that cannot be adequately met by available Fire Department personnel or equipment.

Impacts

The proposed project will introduce new and more intense land uses to the area. The currently undeveloped project site will support single and multiple family residential units as well as general commercial development. The project will result in a substantial increase in population and buildings in the project vicinity and will increase the need for fire and emergency medical services. This increase need will result from the addition of people and structures on the project site as well as in an area that contains substantial grassland that is designated as a light fire hazard. The proposed project will improve the circulation system within the project area, facilitating more efficient access. Presently, much of the project site is accessible only by unpaved access roads and undeveloped extensions of existing roadways.

The City of Bakersfield Fire Department currently staffs at a level of 0.76 fire department personnel per 1,000 residents. Development of the proposed project will result in 11,503 residents that will require 8.7 fire protection personnel based on the current City staff levels. Development of the proposed project will result in significant adverse impacts to existing fire protection services.

Cumulative Impacts

Future development resulting from future growth in the area as well as development of the proposed project will include the introduction of new structures to the area, and an increased risk of fire hazards as the area transitions from rural to urban. This cumulative development in the project vicinity will result in a substantial need for fire protection services. The proposed project along with future development will result in the development of new arterial and collector streets that will provide improved access to the project site and the surrounding areas, allowing fire and emergency vehicles greater access to the area. However, the proposed project will substantially contribute to a significant cumulative impact on fire protection personnel.

Mitigation

FPS-1 Prior to the issuance of building permits, the project applicant shall pay its fair share toward the construction of a new fire station and provision of fire department personnel that will serve the project vicinity.

FPS-2 Prior to the approval of grading plans, the project applicant shall submit emergency fire access plans to the Fire Department for review and approval to assure that service to the site is in accordance with Bakersfield Fire Department requirements.

FPS-3 Prior to the commencement of structured framing onsite, the project applicant shall install fire hydrants in accordance with the City-approval building plans.

FPS-4 Prior to the approval of street improvement plans, the project applicant shall demonstrate to the City Fire Department that the onsite water supply system is designed to provide sufficient fire flow pressure and storage in accordance with City Fire Department requirements.

Level of Significance After Mitigation

After the implementation of the above measures, impacts to fire protection services will be less than significant.

5.8.2 POLICE PROTECTION SERVICES

Existing Conditions

The Bakersfield Police Department currently provides police protection services to the project area. The Bakersfield Police Department is located at 1601 Truxton Avenue. On a 24-hour basis, manpower throughout the jurisdiction includes forty officers available to respond to calls. The equipment available includes 122 patrol vehicles assigned to the take home program, ten patrol vehicles, 21 motorcycles, five black and white traffic vehicles, 14 unmarked patrol units assigned to the gang suppression unit, one S.W.A.T. van, one S.W.A.T. special response/rescue vehicle, one bomb van, one commercial enforcement truck, and one surveillance plane. Currently, the police department is operating at a level of 1.33 officers per 1,000 population.

According to the Bakersfield Police Department, the response time to the project area is nine minutes and 13 seconds. The Department's overall response time for serious/urgent/emergency requests throughout the rest of the district is typically five minutes. Other than the occasional warrant sweep or the combining of narcotics task forces, the Bakersfield Police Department functions separately from

the Kern County Sheriff's Department. There are no other mutual aid programs that the Department participates in at this time (R. Larson, 2000).

According to the Bakersfield Police Department, there have been no crimes reported within the project area and vicinity (R. Larson, 2000).

Project Impacts

Thresholds of Significance

This project is considered to have a significant impact relative to police services if:

- Increases in development, population, or response times would require expanding the existing staff and equipment levels to maintain an adequate level of protection throughout the service area.
- A substantial amount of police emergencies that cannot be adequately served by the available Police Department personnel or equipment results.

Impacts

Implementation of the City in the Hills project will have a direct impact upon police services in the area. To date, there are no reported crimes within the project area. The introduction of residential and commercial uses will increase the likelihood of criminal activity. The proposed project is anticipated to incrementally increase criminal activity such as vandalism, burglary, and theft and will result in a significant impact on existing police protection services. According to the City of Bakersfield Police Department, the project will increase the need for police personnel, support staff, and equipment. Under the take home vehicle program instituted by the Department, each new officer hired for the project area would require a vehicle and other necessary equipment. Based upon the current ratio of 1.33 officers per 1,000 population, the proposed project would result in the need of an additional 15 police officers to maintain the current level of service.

Cumulative Impacts

The proposed project along with future development would increase the demand for police protection services in the project vicinity. As set forth by the General Plan, development in this area is predominately single family residential with commercial land uses clustered along the current alignment of SR 178. As development occurs, crimes associated with these various land uses is expected to increase. Development of the proposed project will substantially contribute to a significant cumulative impact on existing police protection services.

Mitigation Measures

PPS-1 Prior to the issuance of building permits, the project applicant shall pay its fair share toward the provision of additional police protection personnel and equipment that will serve the project vicinity.

Level of Significance After Mitigation

After the implementation of the above measures, impacts to police protection services will be less than significant.

5.8.3 SCHOOL SERVICES

Existing Conditions

The project site is located in the Bakersfield City School District (BCSD) and Kern High School District (KHSD). The BCSD serves K-8 with elementary and junior/middle schools while the KHSD serves 9-12. The nearest elementary schools are Chavez Elementary School and Thorner Elementary School. The nearest junior/middle schools are Stiern Middle School and Chipman Junior High School. The nearest high schools are Highland High School and Foothill High School. Following is a discussion of the schools that are nearest to the project site.

Elementary Schools

Chavez Elementary School

Chavez Elementary School serves K-6 grades and is located approximately 0.5 mile south of the project site along Mesa Marin Drive. The Chavez Elementary School is one of the District's newest schools, having opened in 1994, and is a Magnet Science school. The school has a current student population of 373 students with a total capacity of 480 students. To date, there are no expansion plans for the school, but there is additional infrastructure capacity to add additional buildings, if necessary (L. Varga, 2000).

Thorner Elementary School

Thorner Elementary School also serves K-6 grades and is located approximately 1.5 miles west of the project site northeast of the Panorama Drive and Thorner Street intersection. This school has a current student population of 783 students with a total capacity of 900 students.

Junior/Middle Schools

Stiern Middle School

Stiern Middle School serves 6-8 grades and is located approximately 2 miles southwest of the project site along Morning Drive and north of Highway 184. This school has a current student population of 721 students with a total capacity of 1,480 students.

Chipman Junior High School

Chipman Junior High School serves 7-8 grades and is located approximately 2.5 miles west of the project site southeast of the Eissler Street and Charger Avenue intersection. This school has a current student population of 777 students with a total capacity of 930 students.

High Schools

Highland High School

Highland High School serves 9-12 grades and is located approximately 2 miles west of the project site northwest of the Fairfax Road and Auburn Street intersection. This school has a current student population of 1,952 students with a total capacity of 1,912 students (P. Hogland, pers. comm., 2000). Highland High School is currently overcrowded and includes portable classrooms.

Foothill High School

Foothill High School also serves 9-12 grades and is located approximately 3 miles south of the project site southwest of the Foothill Road and Morning Drive intersection. This school has a current student population of 2,084 students with a total capacity of 1,877 students. Foothill High School is currently overcrowded and includes portable classrooms.

Project Impacts

Thresholds of Significance

A project can be considered to have a significant impact on public schools if the project generates more students than the capacities of the schools, leading to a condition of overcrowding.

Impacts

Implementation of the proposed project will result in the development of 2,750 single family units and 1,300 multiple family units. The development of residential uses will result in the generation of school children. As shown in Table 5.8-1, based on the student generation factors for each grade level, the proposed project is expected to generate 2,087 K-6 grade (elementary) students, 821 7-8 grade (junior/middle) students, and 1,013 9-12 grade (high school) students. As discussed previously, the existing schools that service the project area are currently over or near capacity. The implementation of the proposed project would result in significant impacts on existing school facilities.

TABLE 5.8-1
PROJECTED STUDENT POPULATION

Land Use	Dwelling Units	Student Generation Factors			Project Student Generation		
		K-6[a]	7-8[a]	9-12[b]	K-6	7-8	9-12
Single Family	2,750	0.551	0.221	0.250	1,515	608	688
Multiple Family	1,300	0.440	0.164	0.250	572	213	325
Total	**4,050**				**2,087**	**821**	**1,013**

[a] Louis Varga, Bakersfield City School District, pers. comm., 2000
[b] Jack Covard, Kern High School District, pers. comm., 2000
Source: Michael Brandman Associates, pers. comm., 2000

Cumulative Impacts

Implementation of the proposed project and future growth in the project vicinity is expected to result in a substantial increase in residences as well as school age children. This potential increase in students will result in a significant cumulative impact on elementary, junior/middle, and high schools.

Mitigation Measures

SS-1 Prior to the issuance of building permits, the project applicant shall pay District-adopted development impact school fees that are in effect at the time of issuing each permit. The District-adopted fees are required to be in accordance with State statutes that are in effect at the time of issuing each permit.

Level of Significance After Mitigation

After the implementation of the above measures, impacts to school services will be less than significant.

5.8.4 SOLID WASTE SERVICES

Existing Conditions

The California Integrated Waste Management Act of 1989 redefined solid waste management concerning both objectives and planning responsibilities for local jurisdiction and the State of California. The Act requires cities and counties to reduce solid waste disposal by 25% by January 1, 1995 and by 50% by January 1, 2000 through a combination of solid waste management, source reduction, recycling, composting, and market development. The law also requires that each county prepare an Integrated Waste Management Plan (IWMP). In compliance with the law, Kern County Waste Management Department prepared an IWMP in February of 1998.

According to the Waste Management Department, there are three solid waste facilities that serve the project area.

- Kern County Landfill (Bena Canyon)
- City of Bakersfield Greenwaste Facility
- Metropolitan Recycling Center for Construction Waste

The Bena Canyon Landfill is currently operating within the first of four phases that are proposed for the landfill's lifespan. Phase I, the smallest of the four phases, has a remaining capacity of approximately 3.5 million tons, accepting a permitted tonnage of 1,764 tons/day with an average of 894 tons/day as of November 1999. The Phase II expansion is expected to be completed by the end of 2000 with a total capacity of 50 million tons. Phases III and IV are anticipated to individually have capacities of 50 plus million tons, totaling over 100 million tons of future solid waste capacity at Bena Canyon Landfill.

The City of Bakersfield Greenwaste Facility and the Metropolitan Recycling Center for Construction Waste accept 200 tons/day combined.

Project Impacts

Threshold of Significance

A project is considered to have a significant impact on solid waste facilities (i.e. landfills) if the existing facilities do not have adequate capacity for the increase in solid waste, or if the disposal of project-related solid waste would result in a substantial reduction in the planned life span of the landfill.

Impacts

Implementation of the proposed project will involve site preparation activities that will generate waste materials. Hauling and disposal of these materials will occur during the construction process. Following completion and occupancy of the project site, refuse will be regularly generated. Table 8.5-2 shows the estimated daily amounts of solid waste generated within the project site.

TABLE 5.8-2
PROPOSED PROJECT SOLID WASTE GENERATION

Proposed Uses	Density	Generation Rate	Solid Waste Generation
Single Family Residential (R-1)	2750 units	2 tons/unit/year[a]	5,500 tons/year
Multi Family Residential (R-2)	1300 units	2 tons/unit/year[a]	2600 tons/year
General Commercial	1,048.076 (2,056 employees)	2 tons/employee/year	4,112 tons/year
Total			**12,212 tons/year**

[a]N. Ewert, Kern County Waste Management, pers. comm., 2000.
[b]Rate is base upon the average solid waste generation rates of similar uses permitted in the C-2 zone, and assumes one employee per 510 square feet of General Commercial (C-2)
Source: Michael Brandman Associates, 2000.

As shown in Table 5.8-2, development of the proposed project would result in the generation of 12,212 tons of solid waste per year, or 33.4 tons per day. Given the average daily capacity at the Bena Canyon Landfill of approximately 870 tons per day, the project would not substantially reduce the available capacity of this facility. Furthermore, the Bena Landfill is estimated to have a remaining capacity of 100 years (N. Ewert, pers. comm., 2000). Therefore, the project is not anticipated to have a significant impact upon existing solid waste services.

Cumulative Impacts

The study area for cumulative impacts to solid waste service is the service area of the Bena Canyon Landfill. As noted previously, the Bena Landfill is estimated to have a remaining capacity of 100-years and is currently in the first of four phases of expansion. The remaining three phases have a combined capacity of over 150 million tons. Additionally, as outlined in the Kern County IWMP, solid waste generation was to be reduced by 50 percent by the year 2000, thus implementation of the IWMP has expanded the life of local landfills. Moreover, it is assumed that the proposed project and all related projects will be required to incorporate solid waste reduction strategies into project construction and operation, thus reducing the level of any cumulative impacts, therefore, it is anticipated that there will be a less than significant cumulative impact to solid waste services.

Mitigation Measures

Implementation of the following measure will reduce the amount of solid waste that will be transported to landfills, thus reduce the loss of capacity at the landfills.

SWS-1 Prior to the issuance of building permits for residential uses, the applicant shall demonstrate how the project would participate in a waste management program, which includes but is not limited to the following:

- A commitment to contract with a recycling business for the collection and repossessing of glass, mixed and newsprint paper, plastics, and aluminum for all residential uses.
- A commitment to begin the recycling when solid waste collection begins.
- Provision of onsite receptacles for the collection of glass, mixed and newsprint paper, plastics, and aluminum for recycling purposes shall be provided. Locations of receptacles shall be indicated on building plans.
- Ensuring that hazardous waste disposal complies with federal, state, and city regulations.

Level of Significance After Mitigation

The proposed project will result in less than significant impacts on solid waste services.

5.8.5 ELECTRICITY

Existing Conditions

The project site is located within the Pacific Gas and Electric (PG&E) service area. PG&E's electricity is generated from a combination of nuclear, hydroelectric, geothermal, fossil fuel, wind generation, and solar. Existing electricity facilities are located along SR178, Masterson Street, Paladino Drive, and Morning Drive. There are currently 12 KV electrical lines along each of these roadways. A 70KV transmission line that extends to the PG&E's hydroelectric plant in the mouth of the Kern River Canyon is also located on the poles along Masterson Street (D. Lee, pers. comm., 2000).

Project Impacts

Thresholds of Significance

A project is considered to have a significant impact on electrical service if existing or planned facilities and supplies are not adequate to serve proposed land uses or existing electrical service is notably disrupted.

Impacts

PG&E periodically analyzes electrical demands and determine necessary improvements. Electrical consumption needs of the City in the Hills project would be approximately 66.3 million kilowatt hours per year as shown in Table 5.8-3.

TABLE 5.8-3
PROJECTED ANNUAL ELECTRICAL DEMAND

Land Use	Units/Area	Electrical Demand Factor (Kwh/yr)[a]	Solid Waste Generation (million Kwh/year)
Residential	4050	5,760/unit	23.3
Commercial	1,048,076	2 tons/employee/year	43.0
Total			**66.3**

Kwh/yr -kilowatt hours/year
Sf -square foot
[a] City of Bakersfield, metropolitan Bakersfield 2010 general Plan, 1990.
Source: Michael Brandman Associates, 2000.

According to PG&E staff, the existing electrical facilities adjacent to the project site would not be adequate to serve development of the proposed project (G. Rodriguez, pers. comm., 2000). Additional facilities are expected to be necessary to provide service for the entire project site. These additional facilities could be phased over the project's 20-year buildout. Given that the project site is located in an area that has a large amount of vacant land, the project may require expansion of the distribution and transmission line systems and related facilities such as upgrading substations. Coordination is typical between the applicant/developer and PG&E to avoid any notable electricity service disruptions during extension and upgrading of services and facilities. This coordination would also ensure that the nature, design and timing of electrical system improvements are adequate to serve the project. The project applicant may be required to fund improvements to the electrical system so that adequate service is provided to the site. Expansions of distribution and transmission lines are expected to occur along existing and planned roadways. These expansions are expected to result in less than significant environmental impacts.

Cumulative Impacts

Development of the proposed project and future development in accordance with the City's existing General Plan would require extensions of and connections to the existing and future electrical transmission and distribution systems. The existing and planned facilities owned by PG&E are projected to adequately serve planned growth in the City. These facilities would be constructed with a combination of applicant fees as well as fees collected by the utility provider. Less than significant cumulative impacts on future electrical facilities would occur from the development of the proposed project and future developments. As individual phases of the project are developed and other offsite developments are implemented, these developments will require extensions of electrical facilities. These future extensions would be coordinated with PG&E to avoid any notable disruptions to existing services.

Mitigation Measures

No measures are required.

Level of Significance After Mitigation

The proposed project would result in less than significant impacts to electrical services.

5.8.6 NATURAL GAS

Existing Conditions

The project site is located within the PG&E service area. Currently, the nearest natural gas line to the project site is located at SR 184 and Masterson Street. This natural gas line extends along SR 184 from Niles Street to the Rio Bravo Country Club east of Alfred Harrell Highway. A 4-inch main is also located along Panorama Drive and ends between Fairfax Drive and Morning Drive. There is also a 2-inch main located at the Fairfax Road and SR 178 intersection.

Project Impacts

Threshold of Significance

A project is considered to have a significant impact on natural gas service if a project is considered to have Existing or planned facilities are not adequate to serve proposed land uses or existing natural gas service is notably disrupted.

Impacts

PG&E periodically analyzes natural gas demands and determine necessary improvements. Natural gas consumption needs of the City in the Hills project would be approximately 61 million cubic feet per year, as shown in Table 5.8-4.

TABLE 5.8-4
PROJECTED ANNUAL NATURAL GAS DEMAND

Land Use	Units/Area	Natural Gas Demand Factor (cu.ft./yr)[a]	Annual Demand (million cu.ft./yr)
Residential	4050	9,125/unit	40.0
Commercial	1,048,076	20/sf	21.0
Total			**61.0**

Cu/ft/yr -cubic feet per year
Sf -square foot
[a] City of Bakersfield, metropolitan Bakersfield 2010 general Plan, 1989.
Source: Michael Brandman Associates, 2000.

PG&E staff has indicated that the existing facilities may not be adequate to provide adequate service to the proposed land uses (D. Othart, pers. comm., 2000). Given that the project site is located in an area that has a large amount of vacant land, the project may require expansion of distribution and transmission lines and related facilities such as gas lines and meter sites. Coordination is typical between the applicant/developer and PG&E to avoid any notable natural gas service disruptions during extension and upgrading of services and facilities. This coordination would also ensure that the nature, design and timing of electrical system improvements are adequate to serve the project. The project applicant may be required to fund improvements to the natural gas system so that adequate service is provided to the site. Expansions of distribution and transmission lines are expected to occur along existing and planned roadways. These expansions are expected to result in less than significant environmental impacts.

Cumulative Impacts

Development of the proposed project and future development in accordance with the City's existing General Plan would require extensions of and connections to the existing and future natural gas transmission and distribution systems. The existing and planned facilities owned by PG&E are projected to adequately serve planned growth in the City. These facilities would be constructed with a combination of applicant fees as well as fees collected by the utility provider. Less than significant cumulative impacts on future electrical facilities would occur from the development of the proposed project and future developments. As individual phases of the project are developed and other offsite developments are implemented, these developments will require extensions of natural gas facilities.

These future extensions would be coordinated with PG&E to avoid any notable disruptions to existing services.

Mitigation Measures

No measures are required.

Level of Significance After Mitigation

The proposed project is would result in less than significant impacts on existing and planned natural gas services.

5.8.7 WASTEWATER

Existing Conditions

The project site is within the City of Bakersfield service area and would be served by the existing City facilities in the area. The sewer service system within the project area was developed in 1993 to be compatible with the land uses set forth in the General Plan (L. Dimberg, pers. comm., 2000). The existing trunk line traverses Section 20, south of the project site, until the midway point of Section 20 where the line divides. An 18-inch sewer line follows up the middle of Section 20 and than traverses to the east and north, following the eastern boundary line of Section 17. The western trunk line follows along SR 178 and than splits again with a 15-inch line following the western border of Section 17. Within Sections 18 and 19, there are 18-inch sewer lines that are branches from the main trunk line in Section 20.

The treatment plant that serves this area is the City of Bakersfield Treatment Plant No. 2. Presently, the treatment plant has a flow of 16 million gallons per day, and has a capacity of 25 million gallons per day. According to the City of Bakersfield's Waste Management Department, treatment Plant No. 2 has an anticipated capacity until the year 2040 (J. Turner, pers. comm., 2000).

Project Impacts

Thresholds of Significance

A project is considered to have a significant impact on wastewater if:

- Wastewater flows generated by the project cannot be accommodated by the local wastewater treatment system.

- Wastewater distribution lines are not capable of conveying the sewage generated by the project to the wastewater treatment plant.

Impacts

According to the City of Bakersfield's Waste Management Department, the project site's wastewater system has been designed to accommodate growth within the project area as forecasted by the Metropolitan Bakersfield 2010 General Plan. The proposed project is substantially consistent with those uses and will not have a significant impact upon wastewater services. The proposed project will require extensions from these existing facilities to adequately serve the project site.

Table 5.8-5 calculates the proposed project's wastewater generation to be 1.50 million gallons per day. As mentioned above, the City of Bakersfield Wastewater Treatment Plant #2 has a current capacity to treat 25 million gallons per day and has a current flow of 16 million gallons per day.

TABLE 5.8-5
PROPOSE PROJECT'S 2020 WASTEWATER DISCHARGE GENERATION

Land Use	Units	Generation Factor[a] (gpd)	Wastewater Generation (mgd)
Residential	11,503 residents	100/person	1.15
General Commercial	96.9 acres	3,589/gross acre	0.35
Total Project Wastewater Generation			**1.50**

[a] M. Baumruk, Kern County Engineering and Survey Department, 2000.
gpd = gallons per day
mgd = million gallons per day
Source: Michael Brandman Associates, 2000.

Cumulative Impacts

Development of the proposed project and future development in the project area in accordance with the City's existing General Plan would substantially increase the generation of wastewater in the project area. Existing sewer lines in the project area have been installed to accommodate future growth in accordance with the existing General Plan land uses. The proposed project will require a General Plan amendment; however, the project is substantially consistent with the existing General Plan land uses. As discussed in Section 7.2, the proposed project would generate less wastewater compared to the potential land uses that could be developed on the site in accordance with the General Plan.

Cumulative development in the project area would contribute wastewater to the City's Wastewater Treatment Plant #2. According to the City, this treatment plant is expected to have capacity until the year 2040. The City has stated that additional capacity would be provided after the treatment capacity is within 5 years of full capacity (J. Turner, pers. comm., 2000).

Mitigation Measures

No measures are required.

Level of Significance After Mitigation

The proposed project will result in less than significant impacts on wastewater/sewer services.

5.8.8 WATER

Existing Conditions

The proposed project is within the service area of the California Water Company (CWC); however, currently there area no water facilities on or in the immediate vicinity of the project site. The nearest pipeline to the project site is a 16-inch diameter pipeline that extends east along Panorama Drive to Morning Drive (F. Core, pers. comm., 2000).

The California Water Company will be constructing a water treatment plant and pipeline north and west of the project site to serve new and existing customers. By the year 2002, the planned water treatment plant is expected to treat 20 mgd and distribute the potable water primarily to new and existing customers in the project vicinity. As increased water demand occurs, the water treatment plant is expected to increase its treatment to 40 mgd by 2012. The water treatment plant would receive water from the City of Bakersfield who will operate facilities that will withdraw the water from the Kern River.

Project Impacts

Thresholds of Significance

A project is considered to have a significant impact on water services if existing or planned future facilities are not adequate to serve the proposed land uses.

Impacts

Project implementation would result in increase water consumption from residential, commercial, and fire service demands. The 16-inch diameter pipeline located at the Morning Drive and Panorama Drive intersection could be adequate to provide serve to the proposed project if additional facilities such as water storage facilities are also provided. As identified in Table 5.8-6 the proposed project would result in the demand for 2.7 million gallons per day at full buildout.

TABLE 5.8-6
PROPOSED PROJECT'S 2020 WATER DEMAND

Land Use	Unit	Consumption Rate[a]	Total
Residential	11,503 residents	200 gpd	2.3 mgd (2,576 afy)
General Commercial	2,056 employees	200 gpd	0.4 mgd (461 afy)
Total			**2.7 mgd (3,037 afy)**

[a] Consumption rate derived from the Kern County Water Agency Urban Water Management Plan
gpd = gallons per day
mgd = million gallons per day
afy = acre foot per year
Source: Michael Brandman Associates, 2000.

The project applicant has entered into an agreement with the CWC to provide water facilities to the project site. The water facilities include the extension of the 16-inch water pipleine along the future alignment of Panorama Drive into the project site. The facilities also include multiple water storage tanks on or near the project site. CWC has also entered into an agreement with the City of Bakersfield to provide water to CWC. The City would supply the CWC with up to 2,500 acre feet (2.2 mgd) of water per year until the year 2009.

It is anticipated that the proposed project would achieve half buildout in the year 2010. Under this assumption, the 2,500 acre feet (2.2 mgd) of water that would be available for the project until the year 2009 will be adequate to serve half of the proposed project.

After the year 2009, it is anticipated that the proposed project will be served by the currently planned water treatment facility and pipeline being constructed north of the site. The planned water treatment plant is scheduled to be operational in the year 2003. The water pipeline serving this plant is to be completed in two phases, the inlet in 2001, and the outlet in 2003 to coincide with the completion of the treatment plant. When completed, the planned water pipeline will connect with the 16-inch diameter line along Panorama Drive. This system will have the capacity to provide adequate service for buildout of the proposed project.

Cumulative Impacts

The proposed project and future development projects will increase the long-term demand for water in the northeast Bakersfield area. Additionally, the implementation of the proposed project and future projects would require connection to a future distribution and treatment system. This future system is currently planned north and west of the project site and includes a water treatment plant and pipeline.

As stated previously, the water treatment plant is expected to have a treatment capacity of 40 mgd by 2012. The water treatment plant would receive water from the City of Bakersfield who will operate facilities that will withdraw the water from the Kern River. There would be no effect on existing water entitlements or downstream users as a result of withdrawing water from the Kern River because the City would only be using its own water entitlements and water that the City has previously stored and banked within its 2,800-Acre Groundwater Recharge area. The City would use its own water rights through the use of exchanges and direct use of miscellaneous entitlements. This future system is expected to adequately serve the proposed project and future growth in the project vicinity. Cumulative development would have a less than significant impact on water supply.

Mitigation Measures

W-1 The project applicant shall coordinate with California Water Company to establish precise locations for water distribution and storage facilities that would be constructed onsite and offsite to adequately serve each of the residential and non-residential water needs of the proposed project.

Level of Significance After Mitigation

The proposed project is anticipated to have less than significant unavoidable adverse impacts on water services.

5.8.9 STORMWATER DRAINAGE

Existing Conditions

The topography of the project site is relatively flat with an approximately a 2 percent slope from both the east and west towards the center of the project site. Stormwater on the project site is conveyed from the east and west via two drainage courses located within Section 17 of the project site. The confluence of the two drainage courses are just north of SR 1789. Downstream of the confluence, stormwater flows are conveyed under SR 178. Downstream of SR 178, stormwater continues to flow south on the west side of the Mesa Marin Raceway and continues south of SR 184.

The project site is located within an area that has been defined as the Planned Drainage Area (PDA) for Breckenridge. This PDA encompasses approximately 9 square miles. Conceptual drainage facilities have been identified throughout the PDA. The PDA identifies conceptual facilities on the project site. These facilities include storm drain pipes and detention and retention basins.

Project Impacts

Thresholds of Significance

A project is considered to have a significant drainage impact if the project would:

- substantially alter the existing drainage pattern in a manner which would result in substantial erosion or siltation onsite or offsite.
- substantially alter the existing drainage pattern of the site in a manner which would result in flooding onsite or offsite.
- create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems.:

Impacts

Implementation of the proposed project would result in an increase in impervious surfaces throughout the project site. The proposed project would substantially increase runoff from the project site and would result in increases in storm water runoff volumes and velocities. These increases in storm water runoff volumes and velocities are expected to be substantial. The existing natural drainage course and culvert under SR 178 as well as culverts downstream of the project site are not expected to be adequate to accommodate the increase in storm water runoff as a result of the proposed project. Therefore, implementation of the proposed project would result in potential significant impacts on existing drainage facilities.

The conceptual drainage facilities that are included in the PDA for the Breckenridge area are expected to be adequate to accommodate the anticipated flows associated with the proposed project. However, a drainage plan would need to be submitted for review and approval by the City of Bakersfield. The project applicant has identified that modifications to the PDA would be requested after a detailed drainage plan for the project is prepared. The specific modifications are currently unknown; however, modifications to the PDA are expected to include a conceptual drainage basin identified in the southern portion of the site. Modifications to the conceptual facilities will need to be reviewed and approved by the City of Bakersfield.

Cumulative Impacts

Implementation of the proposed project as well as future development in accordance with the City's existing General Plan would substantially increase the amount of impervious surfaces within the PDA for the Breckenridge area. This increase in impervious surfaces would substantially increase the rate

and volume of stormwater flows in the PDA. Therefore, a significant cumulative impact on existing drainage facilities would result.

The conceptual drainage facilities that are included in the PDA for the Breckenridge area are expected to be adequate to accommodate the anticipated flows associated with the proposed project and cumulative development. Modifications to the conceptual facilities will need to be reviewed and approved by the City of Bakersfield.

Mitigation Measures

SD-1 Prior to the issuance of a grading permit, the project applicant shall submit drainage plans for the project site for review and approval by the City of Bakersfield. The drainage plans shall identify all necessary onsite and offsite drainage facilities to accommodate project-related as well as cumulative (in accordance with the existing General Plan) drainage volumes and velocities. Modifications to the existing PDA for the Breckenridge area will require an approval of an amendment to the PDA by the City of Bakersfield.

Level of Significance After Mitigation

After the implementation of the above measure, the proposed project will result in less than significant drainage impacts.

5.9 AESTHETICS

The following analysis addresses visual resources from various viewing locations within and surrounding the project site and the potential for visual impacts to occur at these locations as a result of the proposed development.

5.9.1 EXISTING CONDITIONS

The project site encompasses approximately 694 acres in northeast Bakersfield. The site is located in Sections 17, 18, and 19 in Township 29 South, Range 29 East between Paladino Drive to the north, State Route 178 to the south, Masterson Street to the east and the undeveloped extensions of Vineland Road and Queen Street to the west. The site itself is undeveloped vacant grassland with a slight slope to the southwest.

The project site is bordered by residential land uses along Paladino Drive to the north, the Mesa Marin Raceway and undeveloped grasslands are located to the south, undeveloped grasslands are to the immediate east abutted by low-density residential land uses, and oil facilities to the west. The Rio Bravo Airport is located approximately one mile east of the site.

Based on a review of the Metropolitan Bakersfield 2010 General Plan, there are no designated scenic highways in the project area.

Visual Character

The project site and the immediate surrounding area are relatively flat and surrounded by rolling hillsides and ridgelines, creating viewsheds from both the immediate terrain and from the above lying hillsides. The immediate viewshed within the project site is dominated by scattered oil facilities to the north and east, the Mesa Marin Raceway to the south, undeveloped grasslands to the west, and residential homes to the north. On the hillsides to the south and east, there are residential land uses and a large water tank. The site is undeveloped and there are no trees or structures that impede views of the site itself or views across the site.

Site and Vicinity Views

Views into the project site are mainly from the residential homes on Paladino Drive directly adjacent to the site, from the Vista Fiensetra residential development located approximately 0.4 mile east of the site, and from vehicles traveling along SR 178. Homes located on a ridgeline west of Morning Drive

have distant views of the site. The project area consists of 689 acres of undeveloped grassland. The site has a slight slope to the southwest but has generally flat terrain. There are no structures on the site.

Photographs were taken to represent the existing physical characteristics and visual conditions within and around the project site. Exhibits 5.9-2 through 5.9-4, Site and Vicinity Photographs, show the identified areas. Please refer to Exhibit 5.9-1 for photograph locations. Below is a description of each photograph.

Photograph 1

This viewpoint is at a location along Valley Street east of the project site and represents the dominant viewshed of the residential homes along Valley Street. While there is some variation in the terrain due to prior disturbance, the area between these residences and the project site, as well as the project site, has a terrain that is generally flat. The undeveloped grasslands characterize both the undeveloped area directly east of the site and the project site. There are also views of above ground electricity lines and utility poles that traverse along Masterson Street.

Photograph 2

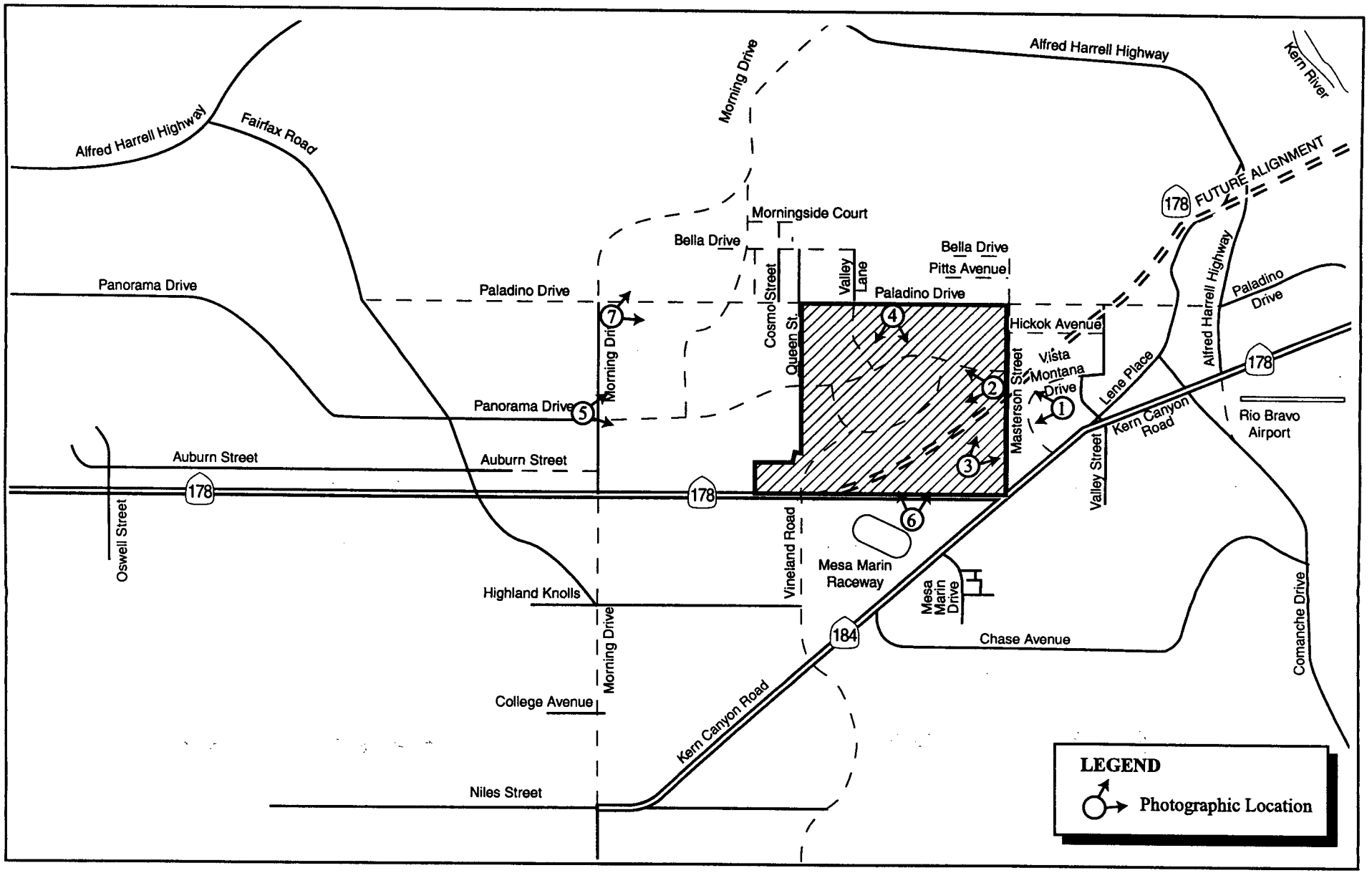
This viewpoint is along Masterson Street approximately halfway between SR 178 and Paladino Drive. This view is toward the west across the project site. As shown, the project site is dominated by grasslands on relatively flat terrain. In the background, views of the hills that are located west of Morning Drive can be seen.

Photograph 3

This viewpoint is near the intersection of SR 178 and Masterson Street. This view is toward the east to the existing residences that are located along Valley Street. Visible from this viewpoint are the rooflines of the single story homes and the upper stories of multiple story homes. Grassland currently dominates the foreground views and rolling hills can be viewed in the background.

Photograph 4

This viewpoint is along Paladino Drive and provides views to the southwest. This viewpoint represents the viewshed of the residents located along Paladino Drive. While grasslands and low-lying shrubs are apparent in the immediate foreground and middle ground, residences, a water tank, and the



NORTH

3520 1760 0 3520

SCALE IN FEET

Michael Brandman Associates

02160011 • 5/2000

Exhibit **5.9-1**

Photographic Index

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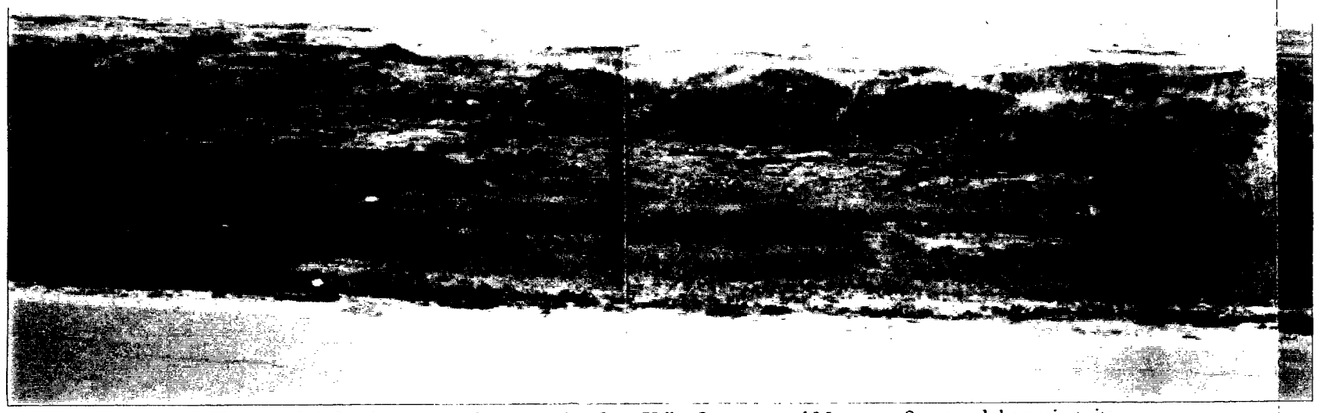
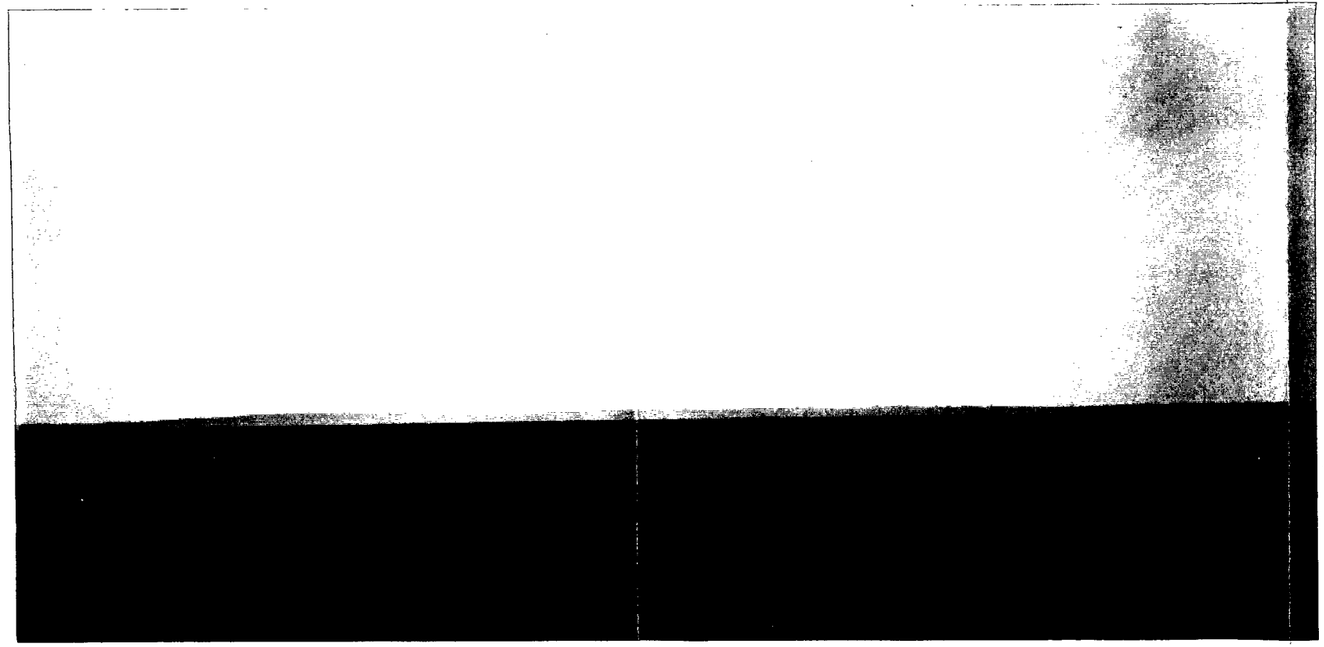
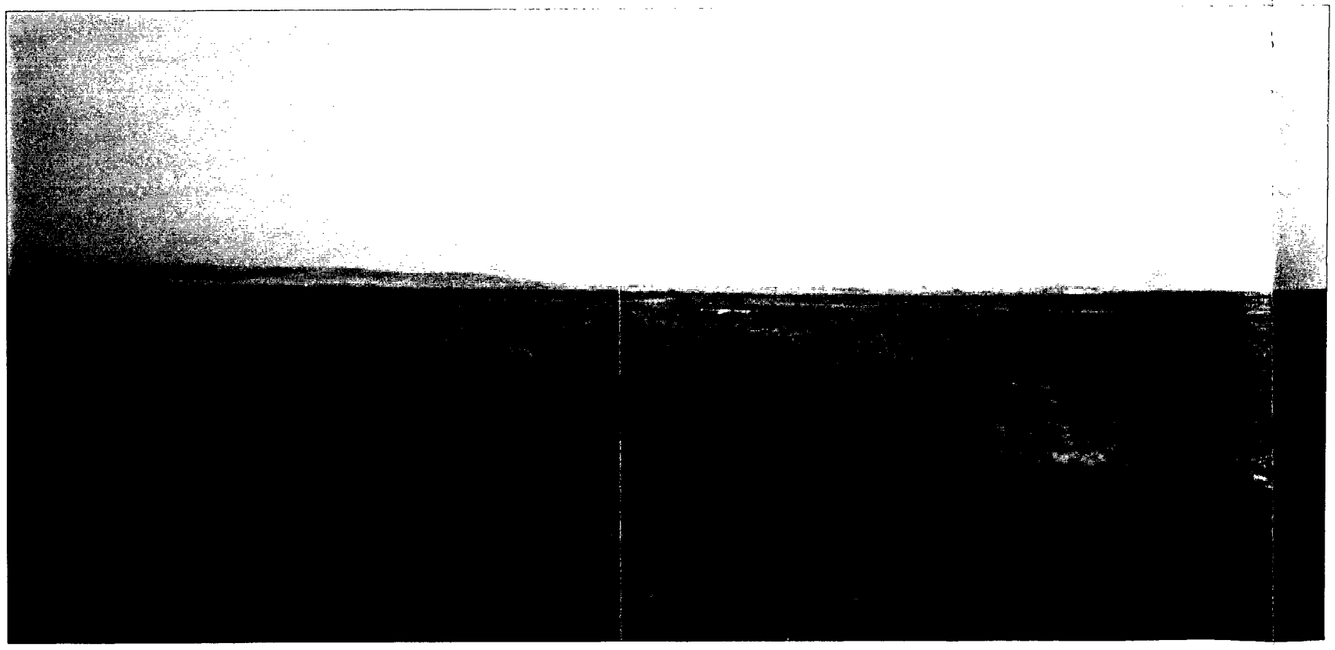


Photograph 1. Southwestern and western view from Valley Street toward Masterson Street and the project site.



Photograph 2. Western view of the site from Masterson Street .

Photograph 3. Eastern view of the site from the corner of Masterson Street and SR 178.



Photograph 4. Southern view of the site from Paladino Drive.

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Exhibit **5.9-3**
Site and Vicinity Photographs

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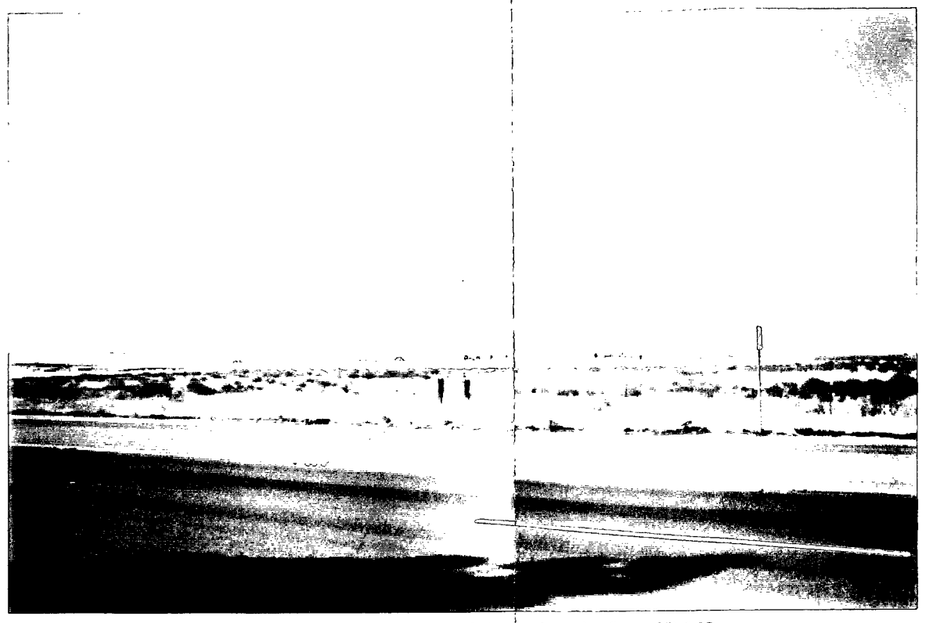
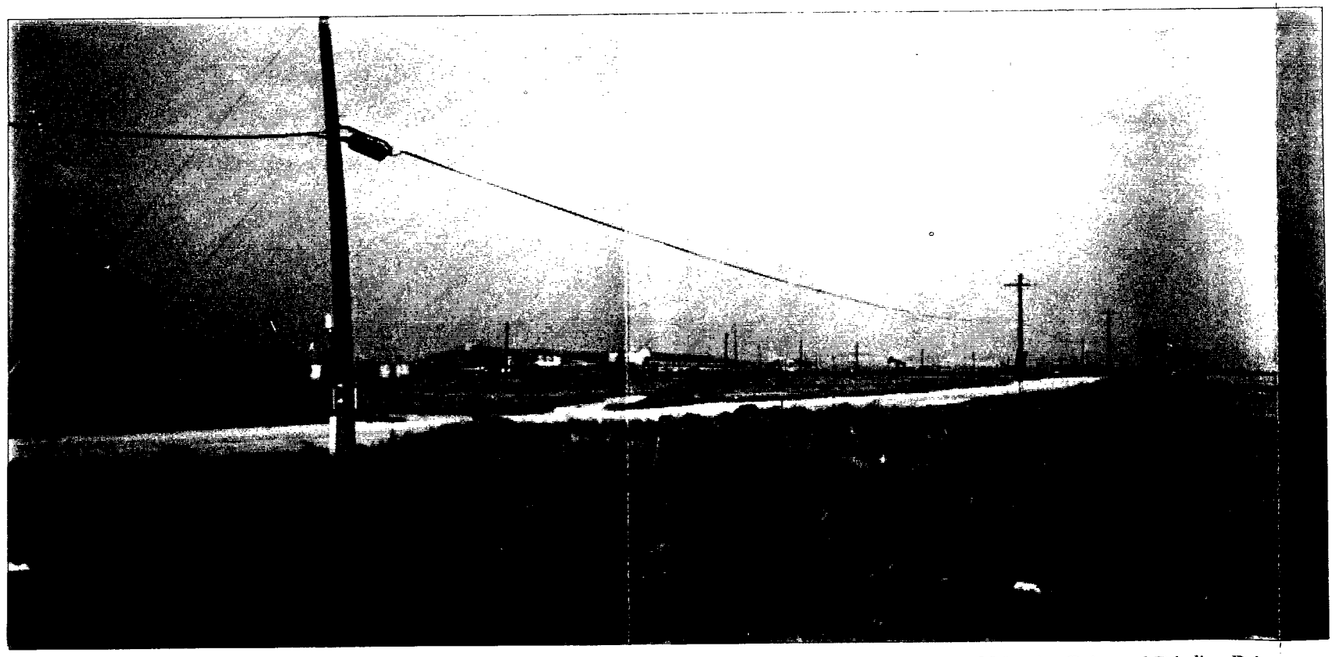
Photograph 5. Eastern view from the Panorama Drive and Morning Drive intersection.



Photograph 6. Northern view of the project site from SR 178.



Photograph 7. Northeastern and eastern view of oil facilities located northwest of the site from the corner of Morning Drive and Paladino Drive.

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Exhibit **5.9-4**
Site and Vicinity Photographs

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Mesa Marin Raceway facilities south of SR 178 are located in the background. As shown in this view, the project site has relatively flat terrain.

Photograph 5

This viewpoint is immediately west of the Panorama Drive and Morning Drive intersection. The view is toward the east and oil facilities in the middle ground can be seen. East of the oil facilities is the project site. Background views include SR 178, residences along Mesa Marin Drive, and residences along Valley Street.

Photograph 6

This viewpoint is along SR 178 adjacent to the Mesa Marin Raceway. This view is to the north toward the residences that are located north of Paladino Drive. SR 178 is in the foreground and the project site is in the middle ground. As shown, the site is covered with grassland and low-lying scrubs. The residences along Paladino Drive and Ant Hill are located in the background.

Photograph 7

This viewpoint is at the corner of Paladino Drive and Morning Drive. The view is to the northeast toward existing oil facilities that are located north of Paladino Drive. The terrain is relatively flat and includes grasslands and low-lying shrubs. Paladino Drive is a dirt road in this area and electrical lines extend along Paladino Drive as well as to the existing oil facilities. The background views include Ant Hill.

5.9.2 PROJECT IMPACTS

Thresholds of Significance

A determination that a change in visual character and aesthetics of a project site is subjective. For purposes of this analysis, an impact on visual and aesthetic nature of the project area is considered to be significant if the project would result in:

- Have a substantial adverse effect on a scenic vista.
- Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway.

- Substantially degrade the existing visual character or quality of the site and its surroundings.
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Development Intensity Impacts

The proposed project involves the transition of approximately 694 acres from undeveloped grassland to a mixture of single family residential, multi-family residential, and general commercial land uses. As proposed, the project would introduce 2,750 single family homes (5.5 units/acre), 1,300 multiple family homes (20.2 units/acre), and approximately 1.05 million square feet of general commercial development (10,835 square feet/acre).

According to the City of Bakersfield zoning ordinance, single family residential (R-1) and multiple family residential (R-2) may be constructed to a maximum height of 35 feet, totaling 2.5 stories. General commercial land uses are zoned to allow for a maximum height of 90 feet, totaling 6 stories.

The development of the proposed project would not impact scenic highways because there are no scenic highways designated in the project area. Furthermore, the proposed project would not affect unique scenic resources because no unique scenic resources are on or adjacent to the site.

The residential properties along Paladino Drive at the northern boundary of the project site will experience a substantial visual change. These homes face south directly onto the project site. The dominant view from these homes is the project site and distant views of the Mesa Marin Raceway. Implementation of the proposed project would alter the project area from a rural to an urban character.

In addition, there are single family homes east of the project site. Although these homes are not directly adjacent to the project site, their viewshed will be altered. These homes face west approximately one mile from the project site, with the project area dominating the viewshed of these homes. The viewshed of the west facing homes will be altered from open grasslands to a mixture of general commercial and low-density residential.

Since the project site does not currently include any development, implementation of the proposed project would alter the existing visual characteristics of the site and alter the existing viewsheds surrounding the site. This alteration of existing views is considered to result in significant adverse visual impacts.

Light and Glare

Lighting associated with the proposed development would introduce new sources of light and glare. Sources of light would include safety lighting for streets, lighting associated with the residential properties, and lighting associated with the general commercial land uses, including parking lot lighting, sign lighting, and security lighting. In addition, the increased traffic in the area will create additional sources of light and glare. Due to the existing rural nature of the project site and the surrounding areas, the proposed project will result in the introduction of substantial new light sources. These new light sources are expected to result in significant adverse night lighting impacts.

5.9.3 CUMULATIVE IMPACTS

The cumulative visual impact area for the project is considered to be the rural northeast Bakersfield planning area as defined by the Metropolitan Bakersfield 2010 General Plan. Development of the project site would result in the urbanizing of rural areas. As concluded above, implementation of the proposed project is anticipated to have a significant adverse visual and night lighting impact. Ongoing development in this area will contribute to a notable change in the existing character of the area, primarily in converting natural and rural vacant areas to urban uses. In the immediate vicinity of the project site, future development in accordance with the City's General Plan include such land uses as low-density residential and various commercial uses clustered along the existing alignment of SR 178. A transition from an area characterized as rural to urban is anticipated and is considered a significant adverse impact.

5.9.4 MITIGATION MEASURES

Implementations of the following mitigation measures are recommended to reduce significant adverse visual and night lighting impacts.

AES-1 Prior to the issuance of grading permits, the project applicant shall prepare landscape plans for the project area to provide visual relief from project structures.

AES-2 Prior to the issuance of building permits, the project applicant shall outline specifications for outdoor lighting locations and other intensely lighted areas. The specifications shall identify minimum lighting intensity needs and design lights to be directed towards intended uses. Methods to reduce light impacts may include low-intensity light fixtures and hooded shields.

AES-3 Prior to the issuance of building permits, the project applicant shall submit and obtain City approval of lighting plans. The lighting plans shall verify that outdoor lighting on private residences is designed so that all direct rays are confined to the site and that adjacent residences are protected from substantial light and glare.

5.9.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the above mitigation measures will reduce the visual and night lighting impacts associated with the proposed project. However, this reduction will still result in significant visual and night lighting impacts. Therefore, the proposed project will result in significant and unavoidable visual and night lighting impacts.

SECTION 6
SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Section 5 of this EIR provides a description of the potential environmental impacts of the proposed project, as well as measures proposed to reduce the environmental impacts to the maximum extent feasible. After the implementation of the proposed mitigation measures, noise, air quality, and aesthetic impacts associated with the proposed project would remain significant. These significant unavoidable adverse impacts are:

- **Land Use**. The proposed project includes residential uses in the southern portion of the site where noise levels would be in excess of the City's Noise Element standards during events at the Mesa Marin Raceway. No feasible mitigation measures are available for the project applicant to reduce these noise levels from the Mesa Marin Raceway to less than the City's L_{50}-55 dBA standard.

- **Noise**. The project will result in significant offsite traffic noise levels in the year 2010 along SR 178 and in the year 2020 along Fairfax Road, Masterson Street, and Paladino Drive. As discussed above, the proposed project also includes residences in the southern portion of the project site that will be exposed to significant noise levels (i.e., greater than L_{50}-55 dBA and less than Lmax – 75 dBA) during events at the Mesa Marin Raceway.

- **Air Quality**. The project will remain in exceedance of SJVUAPCD significance thresholds for ROG and NOx after mitigation measures are implemented.

- **Aesthetics**. The proposed project will result in a substantial alteration of existing views in the project vicinity. The project will also result in a substantial increase in night lighting in the project vicinity.

These significant unavoidable impacts would occur if the development objectives identified in Section 3.3 of the Draft EIR are met.

SECTION 7
ALTERNATIVES TO THE PROPOSED PROJECT

Section 15126(d)(2) of the state CEQA Guidelines, as amended, mandates that an EIR include a comparative evaluation of the proposed project with alternatives to the project, including the No Project Alternative. As described in Section 3, Project Description, the proposed project is the implementation of the City in the Hills project. This section focuses on alternatives to the proposed project capable of avoiding or substantially lessening any significant adverse impact associated with the proposed project even if these alternatives would impede to some degree the attainment of project objectives or be more costly. Additionally, alternatives are discussed in the terms of achieving the project objectives.

Section 15126.6(a) of the state CEQA Guidelines requires a discussion of reasonable alternatives to the proposed project, or to the location of the project, which would feasibly obtain most of the objectives of the project but would reduce, avoid, or substantially lessen the significant effects of the project, and evaluate the comparative merits of the project. Further, the criteria for selecting the scope and nature of the alternatives is based upon the "rule of reason" and includes site suitability, economic viability, availability of infrastructure, general plan consistency and other regulatory limitations. The No Project/No Development Alternative was selected to comply with Section 15126 of the State CEQA Guidelines. The No Project/Development in Accordance with Existing General Plan Land Use Designations was selected so that effects associated with existing planned land uses could be determined. The Alternative Design was selected because this alternative would avoid potential excess noise levels during events at the Mesa Marin Raceway. Finally, the Less Intense Development Alternative was selected because this alternative would avoid the significant unavoidable long-term air emissions associated with the development of the proposed project.

The EIR has focused on the direct and indirect effects on the environment which will result from implementation of the proposed project. Direct significant environmental impacts of the project are related to land use and planning; biological resources; traffic and circulation; noise; air quality; cultural resources; hazardous materials compliance; public services and utilities; and aesthetics. Except for impacts associated with land use, noise, air quality, and aesthetics, all direct significant impacts can be mitigated to a level that is considered less than significant.

The project-related alternatives evaluated in this section are the following:

- No Project/No Development Alternative
- No Project/Development in Accordance with Existing General Plan Land Use Designations
- Alternative Design

- Less Intense Development Alternative

The development objectives for the proposed project are as follows.

- Provide a residential and commercial use community that includes similar uses and quantity of uses as currently identified in the Metropolitan Bakersfield 2010 General Plan Land Use Element for the project site.
- Provide a mixed use residential community that includes at least 4,000 units with an average density of less than 7.26 units per acre.
- Provide a range of housing types on the project site.
- Provide right-of-way for the future construction of the approved SR 178 Freeway and the Vineland Road interchange.
- Provide right-of-way for the future construction of the SR 178 and Masterson Street interchange.

Provide general commercial uses adjacent to the proposed SR 178 interchanges at Vineland Road and Masterson Street.

The Environmentally Superior Alternative will be selected from among these alternatives and the proposed project. An alternative that is environmentally superior will result in the fewest or least significant environmental impacts. Based on the evaluation of the four alternatives in this section, implementation of the No Project/No Development Alternative would result in no impacts and would be environmentally superior than the proposed project. CEQA states that if the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative from the other alternatives. Section 7.5 discusses the environmentally superior alternative.

The analysis of alternatives includes the assumption that all applicable mitigation measures associated with the project will be implemented with the appropriate alternatives. However, applicable mitigation measures may be scaled to reduce or avoid the potential impacts of the alternative under consideration, and may not precisely match those identified for the proposed project.

A description of each alternative and a comparative environmental evaluation the identified impacts of the City in the Hills project is provided below.

7.1 NO PROJECT/NO DEVELOPMENT

7.1.1 DESCRIPTION

The No Project/No Development alternative assumes that no new land uses (including infrastructure improvements) would be added to the project site. The undeveloped portions of the project site would remain vacant. However, SR 178 would be constructed through the project site to reflect the ultimate approved alignment of that roadway. While no other development would be permitted under this alternative, the underlying General Plan and zoning designations would be retained.

7.1.2 IMPACT EVALUATION

The No Project/No Development Alternative would result in minimal environmental impacts relative to the proposed project, related to the realignment of SR 178. Similar to the proposed project, short-term noise and air quality impacts are anticipated during construction, however the significant unavoidable noise and air quality impacts associated with the proposed project are not anticipated under this alternative.

The potential impacts associated with the proposed project related to land use and planning, biological resources, traffic and circulation, cultural resources, hazardous materials compliance, public services and utilities, and aesthetics would also not occur or be substantially reduced under this alternative. Realignment activities would occur within the approximately 27.5 acre right-of-way of SR-178 with the remainder of the project site (666.4 acres) left undeveloped.

7.1.3 CONCLUSIONS

This alternative is considered environmentally superior to the proposed City in the Hills project. However, this alternative would not meet any of the project objectives set forth in Section 3.3. Therefore, this alternative is rejected.

7.2 NO PROJECT/DEVELOPMENT IN ACCORDANCE WITH EXISTING GENERAL PLAN LAND USE DESIGNATIONS

7.2.1 DESCRIPTION

Under this alternative, the project site would be developed in accordance with the existing General Plan land use designations. The project site would consist of 586.5 acres of low density residential, 67 acres of mixed-use commercial, 13 acres of high density residential, and 27 acres of roads (i.e. SR 178 right-of-way). A total of 4,518 residential dwelling units and 1,983,200 square feet of general commercial uses could be potentially developed on the project site under this alternative. This alternative would result in 468 more residential dwelling units and 934,494 more square feet of general commercial compared to the proposed project (see Table 7-1).

TABLE 7-1
NO PROJECT/DEVELOPMENT IN ACCORDANCE
WITH EXISTING GENERAL PLAN DESIGNATIONS CHARACTERISTICS

	PROPOSED LAND USES				
	LR	**HR**	**MUC**	**SR-178**	**TOTAL**
ACRES	582.4	67	13	31.5	693.9
DU/AC or SF/AC	7.26	20	29,600	N/A	N/A
DU/SF	4,228	260	1,983,200	N/A	N/A
POPULATION	12,769	640	N/A	N/A	13,499
EMPLOYMENT	N/A	N/A	3,889	N/A	3,889
TRIPS/DU or 1,000 SF	8.06	6.10	29.46	N/A	N/A
TOTAL TRIPS	34,078	1,586	58,425	N/A	94,039

7.2.2 IMPACT EVALUATION

Land Use and Planning

Implementation of this alternative would result in a similar conflict with the City's noise level performance

standard as the proposed project. This alternative includes residences within the southern portion of the project site and these residences would experience noise in excess of the City's L_{50}-55 dBA performance standard during events at the Mesa Marin Raceway. Similar to the proposed project, this alternative would be consistent with other goals of the City's General Plan. This alternative would not require a General Plan amendment; however, it would result in an increase in the density of uses on the project site. The increase in density may result in greater land use compatibility impacts with the existing residences north of Paladino Drive compared to the proposed project. Overall, this alternative may result in greater land use impacts compared to the proposed project.

Biological Resources

This project alternative would result in an increased intensity of development at the project site, but would result in an identical area of disturbance as the proposed project. Therefore, impact to biological resources at the project site would be the same as under the proposed project.

Traffic and Circulation

Development of this alternative would result in approximately 54 percent more average daily trips (ADT) compared to the proposed project, due to the increased number of housing units and greater intensity of commercial development. Since this alternative would result in a greater number of trips compared to the proposed project, this alternative would result in greater impacts to intersections and roadway segments. Similar to the proposed project, this alternative would result in significant traffic and circulation impacts. Mitigation measures similar to those identified for the proposed project would be required under this alternative to reduce these impacts to a level that is considered less than significant. Overall, this alternative would result in greater traffic and circulation impacts compared to the proposed project.

Noise

Under this alternative, noise from vehicle trips would be greater in comparison to noise levels identified with the proposed project because this alternative would generate more vehicle trips. The increase in the amount of residential units and commercial square footage onsite under this alternative would increase the project-related traffic and, therefore, will increase traffic noise. Construction impacts would be similar to the proposed project, and would not be significant. As with the proposed project, significant unavoidable impacts would occur to land uses along roadway segments offsite from the project. Feasible mitigation measures are not available to reduce the significant unavoidable noise impacts. This impact would be greater than the proposed project due to the higher ADT that would be generated from the greater intensity of land uses. Furthermore, this alternative includes residences in the southern portion of the project site

that would experience noise levels in excess of the City's L_{50}-55 dBA performance standard. As with the proposed project, this alternative would result in a significant unavoidable adverse noise impact to residences in the southern portion of the project site during events at the Mesa Marin Raceway. Overall, this alternative would result in greater noise impacts compared to the proposed project.

Air Quality

Since this alternative would significantly increase the intensity of development throughout the site, the air quality impacts related to construction activities would be greater under this alternative compared to the proposed project. Similar to the proposed project, construction-related PM10 impacts under this alternative would not be significant with the implementation of the mitigation measures identified for the proposed project. However, air quality emissions from long-term vehicle trips would be increased in comparison to the levels identified with the proposed project. The proposed increase in the amount of residential units and commercial square footage onsite would increase the project-related traffic and, therefore, will increase air quality emissions. Similar to the proposed project, impacts associated with long-term air quality emissions would be significant and unavoidable. The mitigation measures identified for the proposed project would be required under this alternative to reduce these impacts to the maximum extent feasible. Overall, this alternative would result in greater air quality impacts compared to the proposed project.

Cultural Resources

Similar to the proposed project, implementation of this alternative would still result in potentially significant impacts related to cultural resources. While a greater intensity of development would occur throughout the site, the same area of disturbance would occur under this alternative and the proposed project. The mitigation measures, as identified for the proposed project, would be required for this alternative to reduce these impacts to less than significant levels. Overall, this alternative could have the same impact on cultural resources compared to the proposed project.

Hazardous Materials Compliance

As with the proposed project, development under this alternative is not anticipated to result in any impacts related to hazardous materials compliance. Both the proposed project and this alternative would expose populations to known hazardous risks, nor result in any new hazardous materials compliance issues. However, this alternative would be subject to the same mitigation measures that would be applied to the proposed project to ensure potential impacts are reduced to a less than significant level. Overall, the impacts under this alternative would be the same as the proposed project.

Public Service and Utilities

Implementation of this project alternative would result in a greater population of residents at the project site, as well as an increase in employees, compared to the proposed project. Therefore, as with the proposed project, this alternative would result in a significant increased demand for public services and utilities at the project site. However, this alternative would be subject to the same mitigation measures that would be applied to the proposed project to ensure potential impacts are reduced to a less than significant level. The overall impact of this alternative would be greater than the proposed project.

Aesthetics

Development under this project alternative would result in an increased intensity of development at the project site, compared to the proposed project. Specifically, this alternative would develop 10 percent more housing units compared to the proposed project, and nearly double the amount of commercial space. As such, significant adverse aesthetics and night lighting impacts noted for the proposed project would be proportionately greater under this alternative. Mitigation measures applicable to the proposed project would be applied to this alternative, but significant unavoidable impacts would remain. Overall, this project alternative would result in a greater level of aesthetic and night lighting impact compared to the proposed project.

7.2.3 CONCLUSIONS

The potential impacts related biological resources, cultural resources, and hazardous materials compliance would be similar to the proposed project. However, impacts to land use and planning, traffic and circulation, noise, air quality, public services and utilities, and aesthetics would be proportionally greater than the proposed project. Therefore, this alternative is not considered environmentally superior to the proposed project. This alternative would, however, meet the objectives of the proposed project, set forth in Section 3.3.

7.3 ALTERNATIVE DESIGN

7.3.1 DESCRIPTION

This alternative includes avoidance of excessive noise levels (i.e., less than L_{50}-55 dBA) by residential uses during events at the Mesa Marin Raceway. As a result, this alternative does not include any residential uses within the L_{50}-55 dBA contour. This alternative includes 199.8 acres of low density residential, 96.9 acres of general commercial uses, 31.5 acres of SR 178 right-of-way, and 365.7 acres of vacant open space. A total of 1,450 residential dwelling units and 1,048,706 square feet of general commercial uses could be potentially developed on the project site under this alternative. This alternative would have 2,600 less residential units and the same amount of commercial uses (see Table 7.2). The project would include a substantial amount of vacant open space that would provide a buffer for residences from excessive noise levels from the events at Mesa Marin Raceway.

TABLE 7-2
ALTERNATIVE DESIGN CHARACTERISTICS

	PROPOSED LAND USES				
	LR	**MUC**	**SR-178**	**Vacant Open Space**	**TOTAL**
ACRES	199.8	96.9	31.5	365.7	693.9
DU/AC or SF/AC	7.26	29,600	N/A	N/A	
DU/SF	1,450	1,048,706	N/A	N/A	
POPULATION	4,379	N/A	N/A	N/A	4,379
EMPLOYMENT	N/A	2,056	N/A	N/A	2,056
TRIPS/DU or 1,000 SF	8.06	29.46	N/A	N/A	
TOTAL TRIPS	11,687	30,890	N/A	N/A	42,577

7.3.2 IMPACT EVALUATION

Land Use and Planning

Unlike the proposed project, the implementation of this alternative would result in no conflict with the City's noise level performance standard. This alternative does not include residences within the L_{50}-55 dBA noise contour during events at the Mesa Marin Raceway. Similar to the proposed project, this alternative would be consistent with other goals of the City's General Plan. This alternative would require a General Plan amendment for the proposed general commercial uses and the proposed SR 178 interchange at Masterson Street. This alternative would result in substantially less density, therefore, less land use compatibility impacts with surrounding land uses could occur. Overall, this alternative may result in less land use impacts compared to the proposed project.

Biological Resources

This project alternative would result in less development compared to the proposed project. Therefore, less potential biological impacts would occur because less disturbance of the site would occur. Less impacts to potential sensitive wildlife species could occur. Overall, this alternative would result in less impacts to biological resources compared to the proposed project.

Traffic and Circulation

Development of this alternative would result in approximately 30 percent less average daily trips (ADT) compared to the proposed project, due to the fewer housing units on the project site. Since this alternative would result in less trips compared to the proposed project, this alternative would result in less impacts to intersections and roadway segments. This alternative may result in significant impacts to intersections and roadway segments. These impacts could be reduce to less than significant by implementing mitigation measures that are similar to the measures recommended for the proposed project. Overall, this alternative would result in less traffic and circulation impacts compared to the proposed project.

Noise

Under this alternative, noise from vehicle trips would be less in comparison to noise levels identified with the proposed project because this alternative would generate less vehicle trips. The reduction of the number of residential units under this alternative would decrease the project-related traffic and, therefore, will decrease traffic noise. Construction impacts would also be less than the proposed project because less area on the project site would be developed. Unlike the proposed project, this alternative is not expected to

result in significant noise levels along offsite roadway segments. Furthermore, this alternative does not include residences within the City's L_{50}-55 dBA contour and, therefore, would not be exposed to excessive noise levels during events at the Mesa Marin Raceway. Overall, this alternative would result in less noise impacts compared to the proposed project.

Air Quality

Since this alternative would reduce the amount of development throughout the site, the air quality impacts related to construction activities would be less under this alternative compared to the proposed project. Similar to the proposed project, construction-related PM10 impacts under this alternative would not be significant with the implementation of the mitigation measures identified for the proposed project. This alternative would, however, result in less construction-related PM10 impacts because less grading would occur under this alternative. Air quality emissions from long-term vehicle trips would also be less in comparison to the levels identified with the proposed project, however, this alternative would still result in significant unavoidable adverse long-term air emissions of ROG and NOx. The mitigation measures identified for the proposed project would also be required under this alternative to reduce these impacts to the maximum extent feasible. Overall, this alternative would result in less air quality impacts compared to the proposed project.

Cultural Resources

Similar to the proposed project, implementation of this alternative would still result in potentially significant impacts related to cultural resources. However, since this alternative would result in less area of disturbance, there would be less potential for significant impacts on cultural resources compared to the proposed. The mitigation measures, as identified for the proposed project, would be required for this alternative to reduce these impacts to less than significant levels. Overall, this alternative would have less potential for impacts to cultural resources compared to the proposed project.

Hazardous Materials Compliance

As with the proposed project, development under this alternative is not anticipated to result in any impacts related to hazardous materials compliance. Both the proposed project and this alternative would not expose populations to known hazardous risks, nor result in any new hazardous materials compliance issues. However, this alternative would be subject to the same mitigation measures that would be applied to the proposed project to ensure potential impacts are reduced to a less than significant level. Overall, the impacts under this alternative would be less than the proposed project because less area would be developed and less uses would be implemented.

Public Service and Utilities

Implementation of this project alternative would result in less population of residents at the project site, as well as less employees, compared to the proposed project. Under this alternative, significant demands for existing public services and utilities would occur. This alternative would be subject to the same mitigation measures that would be applied to the proposed project to ensure potential impacts are reduced to a less than significant level. The overall impact of this alternative would be less than the proposed project.

Aesthetics

Development under this project alternative would result in less development at the project site compared to the proposed project. Specifically, this alternative would develop 90 percent less housing units compared to the proposed project and the same amount of commercial space as the proposed project. The development of this alternative would be expected to result in significant adverse aesthetics and night lighting impacts as noted for the proposed project. However, since the entire site would not be developed under this alternative, less aesthetic and night lighting impacts would occur. Mitigation measures applicable to the proposed project would be applied to this alternative, but significant unavoidable impacts would remain. Overall, this project alternative would result in less aesthetic and night lighting impact compared to the proposed project.

7.3.3 CONCLUSIONS

The potential impacts related land use and planning, biological resources, traffic and circulation, noise, air quality, cultural resources, hazardous materials compliance, public services and utilities, and aesthetics would be less than the proposed project. Therefore, this alternative is considered environmentally superior to the proposed project. However, this alternative would not meet many of the project objectives. This alternative would not provide a similar quantity of residential land uses as identified in the City's General Plan for the site. In addition, this alternative would not provide for a residential community of at least 4,000 units. Since these objectives were not met, this alternative has been rejected in favor of the proposed project.

7.4 LESS INTENSE DEVELOPMENT ALTERNATIVE

7.4.1 DESCRIPTION

The intent of this alternative is to avoid significant unavoidable long-term air emissions from the development of the project site. To reduce long-term air quality emissions to a level that is considered less than significant, no more than 10 tons of ROG or NOx could be generated in one year. Under the proposed project, NOx would be exceeded by approximately 113.25 tons per year. As a result, NOx would need to be reduced by approximately 92 percent so that no significant NOx emissions would be generated. This alternative assumes that all of the proposed land uses under the proposed project (i.e., low density residential, high density residential, and general commercial) would be reduced by 92 percent. Therefore, this alternative assumes the development of 223 low density residential units on approximately 41 acres, 105 high density residential units on 5 acres, and approximately 85,000 square feet of general commercial on approximately 8 acres. The developed acres for each use was derived from a similar density as identified for the proposed project. The development of this alternative would encompass 54 acres on the project site.

7.4.2 IMPACT EVALUATION

Implementation of this alternative would result in substantially less development than the proposed project and would result in less overall environmental impacts. No impacts are expected to be significant and unavoidable under this alternative because the residential uses could be located outside of the L_{50}-55 dBA noise contour during events at the Mesa Marin Raceway.

7.4.3 CONCLUSIONS

This alternative would result in less impacts than the proposed project and is considered environmentally superior. However, this alternative would not meet most the project objectives. This alternative would not include a residential and commercial community that is similar to the community that is contemplated in the City's General Plan for the project site. In addition, this alternative would not provide a residential community of at least 4,000 units. Furthermore, less than 3 acres of commercial uses would be constructed which would not meet the intent of providing general commercial uses adjacent to the proposed SR 178 interchanges at Vineland Road and Masterson Street. This alternative has been rejected in favor of the proposed project.

7.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Based on the above analysis, the No Project/No Development Alternative would be the environmentally superior alternative because no new impacts would occur. Section 15126.6(e)(2) of the CEQA Guidelines states that if the environmentally superior alternative is the no project alternative, the EIR should also identify

the environmentally superior alternative among the other alternatives. Since the Development of the Less Intense Development Alternative would reduce all potential impacts to less than significant, this alternative is considered the environmentally superior alternative among the development alternatives.

SECTION 8
LONG-TERM IMPLICATION OF THE PROJECT

8.1 GROWTH INDUCING IMPACTS

This section evaluates the potential for the proposed project to affect "economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment" (CEQA Guidelines, 15126.2[d]).

There are two types of growth inducing impacts a project may have, direct and indirect. To assess the potential for growth-inducing impacts, the project characteristics that may encourage and facilitate activities that individually or cumulatively may affect the environment must be evaluated.

Direct growth-inducing impacts occur when the development of a project imposes new burdens on a community that directly induces population growth or the construction of additional developments in the same area of the proposed project, thereby triggering related growth-associated impacts. Included in this analysis are projects that would remove physical obstacles to population growth (such as a new road into an undeveloped area or a wastewater treatment plant that could allow more construction in the service area). Construction of these types of infrastructure projects cannot be considered isolated from the development they trigger. In contrast projects that physically remove obstacles to growth, projects that indirectly induce growth are those which may provide a catalyst for future unrelated development in an area (such as a new residential community that requires additional commercial uses to support a residents).

Implementation of the proposed project would result in growth inducement. Direct growth inducing impacts would be generated from the residential development and the extension of public utilities and service infrastructure to the site. The provision of public utilities and service infrastructure as a result of the residential and commercial development will reduce constraints on adjacent undeveloped areas and therefore, induce growth into northeast Bakersfield. The proposed project would induce urban intensities through facilitating mechanisms such as the extension of public services and utilities, the introduction of 4,050 residential homes, and approximately 1.05 million square feet commercial development and, therefore, is considered to result in substantial growth inducing impacts.

Indirect, or secondary growth inducing impacts could occur as a result of the creation of employment opportunities on the project site. The creation of 2,056 jobs at the time of full project buildout could result in further growth in the project vicinity.

8.2 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES THAT WOULD BE INVOLVED IN THE PROPOSED ACTION IF IMPLEMENTED

The environmental effects associated with the development of the City in the Hills project are addressed in Sections 5.1 and 5.9 of this document. Implementation of the proposed project will require a long-term commitment of land as discussed below. More specifically the primary effect of development under the proposed project would be the commitment of approximately 694 acres of undeveloped land to residential and commercial uses. The financial and material investments that would be required of the applicant and the City would result in further commitments of land resources making it likely that the same or similar uses would continue in the future. Implementation of the proposed project represents a long-term commitment to urbanization.

Environmental changes associated with the implementation of the proposed project result in alterations of the physical environment. In order to develop the proposed project, existing undeveloped land would be irrevocably committed to urban uses. If the proposed project is approved, and subsequently implemented, new structures would be built, additional utilities would be constructed, and circulation improvements would be made. Nonrenewable resources would be committed, primarily in the form of fossil fuels, and would include fuel oil, natural gas, and gasoline used by vehicles and equipment associated with the construction of the City in the Hills project. The consumption of other nonrenewable or slowly renewable resources would result from development of the proposed project. These resources would include, but not be limited to, lumber and other forest products, sand and gravel, asphalt, petrochemical construction materials, steel, copper, lead, and water. Because alternative energy sources such as solar or wind energy are not currently in widespread local use, it is unlikely that a real savings in nonrenewable energy supplies (i.e., oil and gas) could be realized in the immediate future.

SECTION 9
ORGANIZATIONS AND PERSONS CONSULTED

9.1 PUBLIC AGENCIES

City of Bakersfield

Planning Department ..... Stanley C. Grady
Marc Gauthier
Richard Dole

Public Works Department ..... Jack LaRochelle
Marian Shaw
Lauren Dimberg

Water Department ..... Florn Gore

Transportation Department ..... Bruce Deiter

Waste Management Department ..... Jeff Turner

County of Kern

Waste Management Department ..... Nancy Ewert

Engineering and Survey Department ..... Mark Baumruk

School Districts

Bakersfield City School District ..... Louis Varga

Kern High School District ..... Jack Covard
Paul Hogland

State of California

California State University, Bakersfield ..... Robert A. Schiffman

9.2 PRIVATE ORGANIZATIONS

Bio Resources Consulting ..... Randi McCormick

Brown-Buntin Associates, Inc ..... Bill Thiessen

Crenshaw Traffic Engineering ..... Wallace E. Crenshaw

WZI, Inc. ..... Bob Langner

Porter-Robertson Engineering ..... Harold Robertson
Matt VoVilla