CITY OF PALMDALE
OFFICE OF THE
PLANNING DEPARTMENT

M E M O R A N D U M

TO: Interested Agencies and Individuals

FROM: Molly Bogh, Director of Planning

SUBJECT: Final Environmental Impact Report for the City of Palmdale General Plan.

DATE: February 1, 1993

This document constitutes the Final EIR for the City of Palmdale General Plan, certified by the City Council on January 25, 1993. The Final EIR is composed of the Draft EIR as amended by Exhibit C of Resolution 93-10, public comments received on the Draft EIR and responses to public comments, Resolution 93-10, and the General Plan's Notice of Determination. These items are contained in this packet. Should any of the above-listed items be missing, please contact Laurie Lile at (805) 267-5241 for replacements.

MEB:LKL/wp11227

Attachments:

Draft General Plan EIR
Resolution 93-10, with Exhibits B, and C
Notice of Determination

CITY OF PALMDALE
LOS ANGELES COUNTY, CALIFORNIA
RESOLUTION NO. 93-10

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PALMDALE CERTIFYING THE ENVIRONMENTAL IMPACT REPORT FOR THE CITY OF PALMDALE DRAFT 1993 GENERAL PLAN, ADOPTING SAID GENERAL PLAN AND REPEALING IN THEIR ENTIRETY RESOLUTION NOS. 76-12, 85-115 AND 88-93 PERTAINING TO THE CURRENT ADOPTED GENERAL PLAN ELEMENTS, AND ANY AMENDMENTS THERETO

WHEREAS, Pursuant to Section 65300 of the State Planning and Zoning Law (Division 1 of Title 7 of the California Government Code), the City of Palmdale has prepared a Draft General Plan to provide comprehensive, long-range policy guidelines for future growth and development which incorporates the mandated elements, including Land Use, Circulation, Noise, Housing, Public Services, Safety, and Environmental Resources, and each element includes a profile report containing baseline data, a statement of issues, goals, objectives, policies, and implementation programs as required by State law; and

WHEREAS, An initial study was completed for the project by the Planning Department, pursuant to Section 15063 of the State CEQA Guidelines on November 10, 1987, which identified that there was substantial evidence that the project may have a significant impact on several environmental resources and public services. Pursuant to State CEQA Guidelines 15064 and 15081, a decision was made to prepare an EIR for the project; and

WHEREAS, On November 19, 1987, a Notice of Preparation for the EIR was prepared and sent to the State Clearinghouse in the Office of Planning and Research for the State of California and to other responsible agencies; and

WHEREAS, A screencheck General Plan and Draft EIR were prepared by a consultant retained and compensated by the City for the purpose of complying with Government Code Sections 65300, et seq. and the California Environmental Quality Act (CEQA), respectively; and

WHEREAS, Screencheck copies of the General Plan and Master Environmental Assessment were submitted to the City on March 1990 and September 1990 and copies of the screencheck documents were circulated to various departments and agencies for comment; and

WHEREAS, The Planning Commission conducted 23 duly noticed public hearings on the General Plan between the years of 1990 and 1991, held at times and places specified in the public notification for the meeting, in accordance with California Government Code Sections 65355 and 65090, and Public Resources Code Section 21092; and

WHEREAS, In 1992, City staff revised the General Plan in response to citizen and Commission input, and to update technical information relating to current conditions; and

WHEREAS, The Planning Commission conducted 10 duly noticed public hearings on the revised screencheck elements of the Draft General Plan between the months of March 1992 and July 1992, held at times and places specified in the public notification for those meetings, in accordance with California Government Code Sections 65355 and 65090, and Public Resources Code Section 21092; and

WHEREAS, The Draft General Plan dated July 27, 1992 was prepared pursuant to Government Code Sections 65300 et seq. and in accordance with General Plan Guidelines promulgated by the Governor's Office of Planning and Research; and

WHEREAS, On August 5, 1992, the Draft EIR was completed. Pursuant to State CEQA Guidelines Section 15085, the City prepared a Notice of Completion of the Draft EIR which was filed with the State Office of Planning and Research on August 6, 1992. The DEIR was circulated to interested agencies between August 10, 1992 and September 23, 1992 for a 45-day comment period pursuant to State CEQA Guidelines Section 15087. Comments were received and responses prepared and incorporated into the EIR. A copy of the Final EIR is on file in the office of the Planning Department; and

WHEREAS, The City has submitted the proposed General Plan to other public agencies for review as follows:

(a) The draft Housing Element was submitted to the California Department of Housing and Community Development (HCD) for review on August 7, 1992. On October 26, 1992, the Department of Housing and Community Development informed the City by letter that the Housing Element is in compliance with legal requirements.

(b) In June 1992, the City submitted the Preservation Amendment to the Housing Element to the Department of Housing and Community Development for review. On August 11, 1992, HCD informed the City by letter that the Preservation Amendment is in compliance with legal requirements.

(c) The City consulted with the Division of Mines and Geology of the Department of Conservation and the Office of Emergency Services for the purposes of including information known by and available to the Department and the Office required by Government Code Section 65302 (g). In addition, the proposed Safety Element was submitted to the Division of Mines and Geology for review of seismic safety policies. Comments were received on September 22, 1992 and the Safety Element has been amended in response to these comments and is consistent with their requirements.

(d) The proposed General Plan was distributed for review and comment pursuant to Government Code Section 65352 to interested parties including, but not limited to, the City of Lancaster, County of Los Angeles, local school districts, water purveyors, and other interested parties on August 10, 1992. The comments on the proposed General Plan received from these agencies are summarized in Attachment B of the Resolution (Response to Comments).

(e) The proposed General Plan was submitted to the Southern California Association of Governments (SCAG). On October 1, 1992, the Local Assistance and Compliance Committee of SCAG acted to recommend that the Plan was consistent with applicable regional plans including the State Implementation Plan and urged the City to prepare an Air Quality Element and to provide policies to address the phasing of jobs and housing development.

(f) The General Plan was forwarded to the Los Angeles County Airport Land Use Commission. The Land Use Element has been found to be consistent with the Comprehensive Land Use Plan pursuant to Government Code Section 65302.3.

(g) The Noise Element was prepared consistent with the guidelines established by the Office of Noise Control in the State Department of Health Services.

(h) The Circulation Element is consistent with the currently applicable draft Congestion Management Plan prepared by the Los Angeles County Transportation Committee.

(i) Public input was received from surrounding town councils, property owners and citizen groups during review of the General Plan and the City incorporated many of the suggestions and recommendations into the Draft General Plan; and

WHEREAS, The Planning Commission conducted a duly noticed public hearing on the Draft General Plan and Draft EIR on October 22, 1992, held at a time and place specified in the public notification for the meeting, in accordance with California Government Code Sections 65355 and 65090, and Public Resources Code Section 21092. At that meeting, the Planning Commission by a vote of three in favor, zero against, and two absent, approved Planning Commission Resolution 92-64, recommending to the City Council, certification of the EIR pertaining to the General Plan and adoption of the General Plan; and

WHEREAS, The City Council conducted duly noticed public hearings on the Draft General Plan and Draft EIR on November 19, 1992, November 21, 1992, December 9, 1992, December 17, 1992, January 4, 1993, January 11, 1993 and January 25, 1993 and these meetings were held at a time and place specified in the public notification for the meeting in accordance with California Government Code Sections 65355 and 65090, and Public Resources Code Section 21092.

NOW, THEREFORE, it is hereby found, determined and resolved by the City Council of the City of Palmdale, as follows:

SECTION 1. The City Council hereby specifically finds that all of the facts set forth in the Recitals of this Resolution are true and correct.

SECTION 2. The City Council hereby finds that the Draft EIR, the comments to the EIR and the responses to those comments have been received by the Council, that the Council has reviewed and considered those documents prior to acting on the General Plan, and finds, pursuant to State CEQA Guidelines Section 15090, that the Final EIR has been completed in compliance with CEQA, the State CEQA Guidelines and the City's CEQA Guidelines. The City Council also finds that the Council has independently reviewed and analyzed the EIR and that the EIR reflects the independent judgement of the City Council.

SECTION 3. The City Council finds that the additional information provided in the staff report and any attachments accompanying the EIR does not represent significant new information so as to require recirculation of the EIR pursuant to Public Resources Code Section 21092.1.

SECTION 4. With respect to the potential significant environmental effects identified in the EIR, the City Council finds as follows:

A. DEGRADATION OF AIR QUALITY: The EIR identified that the implementation of the General Plan would result in a significant direct impact, as well as contributing to a larger, significant cumulative impact, to air quality in the Antelope Valley. Development according to the land uses identified on the General Plan Land Use Map would generate mobile source emissions of 35,545 lbs/day of Total Organic Compounds; 354,256 lbs/day of Carbon Monoxide; 68,172 lbs/day of Nitrogen Oxides; 274,983 lbs/day of 10-micron Particulate Material; and 7,731 lbs/day of Sulfur Oxides. In addition, significant emissions would be generated by stationary sources of emissions such as

industrial uses; by generation of dust from construction activities; by application of paints and asphalt; by combustion of natural gas; as well as a number of other sources. Changes or alterations have been required in, or incorporated into, the project which may avoid or substantially lessen this potentially significant environmental effect. The mitigation measures that will be implemented with respect to such effect include providing for a balanced residential community, which will minimize the need for and the length of vehicle trips to places of employment and other commercial uses; providing for alternative modes of transportation, including the development of bicycle and pedestrian transportation systems; encouraging the use of public transportation including the development of public transit facilities; and implementing measures to increase the capacity and service levels of the City's streets and highways. In addition, energy-saving measures will be required to be incorporated into new developments. In spite of the application of these mitigation measures, the EIR determined that total emissions load resulting from development permitted by the General Plan will exceed the thresholds recommended by the South Coast Air Quality Management District for determining significant air quality impacts.

B. IMPACTS TO BIOLOGICAL RESOURCES: Development of the planning area will result in significant direct and cumulative impacts to existing biological resources. These impacts will include the loss of Joshua trees and other native vegetation, destruction of habitat which supports rare and endangered species, disruption of wildlife movement corridors, and the introduction of imported plant and animal species. Since development is proposed for the majority of the Planning Area, most biological resources that are currently present will be lost as buildout of the community occurs. Changes or alterations have been required in, or incorporated into, the project which lessen this potentially significant environmental effect. The mitigation measures that will be implemented with respect to biological resources include designating open space areas and significant ecological areas within the General Plan. Additionally, individual projects will be evaluated for their potential impacts to wildlife habitats. Although General Plan policies will protect significant ecological areas and areas designated for open space, these mitigation measures will not reduce impacts to biological resources to less than significant levels.

C. CUMULATIVE IMPACTS TO WATER RESOURCES: The EIR identified that future development in the Antelope Valley would generate a demand for 293.43 million gallons of water per day. Mitigation measures include the encouragement of water conservation and recharge programs, and the pursuit of additional/import water from all available resources. In spite of the application of these mitigation measures, the EIR concluded that cumulative impacts to water resources could be significant.

D. IMPACTS DUE TO LOSS OF OPEN SPACE: The General Plan designates the majority of the planning area for urban uses. Since most of this area is presently vacant, development will replace open space throughout the planning area. Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen this potentially significant environmental effect. The mitigation measures that will be implemented with respect to loss of open space include policies supporting transfer of development rights to create open space areas and by designating environmentally sensitive areas. In addition, implementation of hillside development regulations will encourage preservation of additional open space. The loss of this open space is considered an unavoidable significant impact that will occur with implementation of the proposed plan.

E. **SIGNIFICANT RISKS ASSOCIATED WITH EARTHQUAKE HAZARDS:** Due to the proximity of the San Andreas Fault Zone, severe seismic shaking, possible ground rupture, liquefaction and other related seismic hazards could occur in the event of a major earthquake. These conditions have the potential to cause significant damage throughout the planning area. Changes or alterations have been required to lessen the potentially significant environmental impact. The mitigation measures include the requirement of geotechnical investigations, strengthening of structures/slabs adjacent to fault lines and requiring setbacks from fault lines as delineated on the Hazards Overlay Map. Although the impact from seismic hazards can be reduced, the potential impacts can not be reduced to less than significant levels.

F. **IMPACTS FROM FUTURE JOBS/HOUSING IMBALANCE:** The General Plan designates a large portion of the planning area for commercial and industrial development. At buildout, the commercial and industrial sectors could generate over 600,000 jobs. With a potential housing capacity of 130,000 dwelling units under General Plan buildout, the planning area's jobs/housing balance could be as high as 4.3 jobs/dwelling unit. This jobs-rich situation could create significant traffic and air quality impacts by drawing employees from the surrounding areas, if development is not managed to coordinate jobs development with housing development. Therefore, significant impacts are anticipated.

G. **SIGNIFICANT TRAFFIC IMPACTS AT ELEVEN (11) ROADWAY LINKS:** Buildout of the proposed land use plan would generate as many as 3.5 million vehicle trips daily. The circulation plan has been designed to accommodate the bulk of these trips; out of 260 roadway links analyzed, only 11 were expected to exceed acceptable levels of service. However, even with implementation of transportation demand management programs, those items listed in paragraph A above and the incorporation of policies requiring adequate infrastructure prior to development approval, the levels of service on these eleven roadway links can not be improved to acceptable levels. Therefore, this represents a significant traffic impact.

SECTION 5. With respect to the significant impacts included in Sections A. through G. that cannot be mitigated to a level of insignificance, the City Council finds, pursuant to Public Resources Code Section 21081(c), that the benefits of adopting and implementing the General Plan as specified within Section 6. below outweigh the unavoidable impacts associated with the implementation of the General Plan.

SECTION 6. The City Council finds that individual and cumulative adverse impacts generated by the project will be mitigated to the extent feasible through the Mitigation Measures as contained in the Environmental Impact Report. Irrespective of these measures, the City Council finds that some impacts cannot be feasibly mitigated to a level of insignificance. In addition, the City Council finds that the Project may result in significant individual or cumulative impacts which have not been identified at this time. The City Council finds that the benefits provided by the project, as contained in the General Plan, will outweigh any adverse impacts caused by the project. These benefits are determined by the City Council to include the following:

1. The General Plan will promote the development of diverse housing stock able to provide housing opportunities for a variety of income groups.

2. The General Plan includes policies which ensure the protection of public safety including but not limited to noise, seismic safety, and crime.

3. The development of the commercial and industrial areas under General Plan buildout will result in the creation of approximately 600,000 permanent jobs and numerous construction jobs which will contribute to the expansion and improvement of the economy of the Antelope Valley.

4. The General Plan will provide for orderly, functional, balanced growth throughout the community, ensuring that required infrastructure and public services are present to serve proposed development.

5. The land use plan reserves land for public uses including recreation, community and public facilities, and schools.

6. The plan contains policies aimed at preserving open space areas, protecting significant ecological resources and ecosystems, preserving hillside areas, protecting historical and cultural resources, conserving groundwater resources, and protecting air and water quality, so as to preserve and enhance the environment for present and future generations.

7. The plan contains policies for the protection of mineral resource areas and provisions for their continued use.

8. The General Plan contains a Master Plan for Circulation which will ensure adequate service levels and sizing for major streets throughout the planning area.

9. The General Plan contains policies which will encourage redevelopment of the downtown area and development of a variety of industrial projects within the City.

SECTION 7. The City Council has reviewed and considered the alternatives to the project discussed in the EIR. Those alternatives are: (1) a "No Project" alternative (page 9-3); (2) an "Existing General Plan " alternative (page 9-15); (3) a "Low Density Land Use Plan" alternative (page 9-35), (4) an "Urban Boundary" alternative" and; (5) a "Future Update" alternative (page 9-51).

With respect to these alternatives to the project, the City Council finds, pursuant to Public Resources Code Section 21081, that there are economic, social and other considerations of the project that make these alternatives infeasible. Specifically, the City Council finds that the Low Density Land Use alternative is the environmentally superior alternative to the project, but is not feasible as it would limit the City's ability to comply with State housing goals relating to providing housing for all income groups.

In addition to the general reasons stated above, the Council specifically finds the following: (1) that alternative 1, "No Project" alternative is not feasible as it would not allow the City to fulfill the goals stated within the General Plan, does not respond to growth and migration, and does not allow the City to respond to development pressure or to remain economically viable; (2) that alternative 2, "Existing General Plan" alternative is not feasible as impacts associated with development would be substantially the same and none of the

beneficial goals of the General Plan would be fulfilled, including those policies which relate to social and infrastructural needs of the community; (3) that alternative 3, "Low Density Land Use" alternative (the environmentally superior alternative) is not feasible because this alternative would not allow the City to fulfill the goals stated within the General Plan including those relating to the provision of housing opportunities for all persons and the alternative would discourage industrial expansion and development of industry; (4) that alternative 4, "Urban Boundary" alternative is not feasible as it would not allow the City to fulfill the goals stated within the General Plan and the same impacts would likely occur, although on a delayed basis; (5) that alternative 5, "Future Update" alternative is infeasible as impacts associated with development would be substantially the same as under the "Existing General Plan" alternative and none of the beneficial goals of the General Plan would be fulfilled. Additionally, this alternative would not be in compliance with State law which would further reduce the potential to attain the basic objectives of the General Plan.

SECTION 8. The City Council hereby certifies the Final EIR pertaining to the 1992 General Plan which consists of the Draft EIR, any comments received, any responses of the City to the comments received, and other materials as set forth in the staff reports dated November 6, 1992, and December 2, 1992 and contained in Exhibits A, B and C of this resolution.

SECTION 9. The City Council has reviewed and considered the Mitigation Monitoring Program contained in Exhibit D of this resolution and finds that the program has been prepared pursuant to the requirements of Public Resources Code Section 21081.6 and that such Program is designed to ensure compliance with the mitigation measures during project implementation. The City Council therefore adopts the Mitigation Monitoring Program for the General Plan EIR.

SECTION 10. The City Council has reviewed the Housing Element Guidelines adopted by HCD pursuant to Section 50459 of the Health and Safety Code and finds that the housing goals, objectives, and policies stated in the revised Housing Element are appropriate for the City of Palmdale and will contribute to the attainment of the state housing goal. The City Council further finds that the adoption of the revised Housing Element will aid the City's efforts to assist in the development of housing for all economic and demographic segments of the community and that the Housing Element reflects the requirements of Government Code Section 65583(b). The revised Housing Element has been amended to reflect the comments of the State Department of Housing and Community Development as noted in Section 3(a) of this resolution and complies with the requirements of Article 10.6 of Division 1 of Title 7 of the Government Code.

SECTION 11. The City Council hereby adopts the 1993 General Plan consisting of the text of the Land Use, Circulation, Environmental Resources, Public Services, Safety, Noise and Housing Elements, the Land Use Plan, Circulation Plan, Noise Contour and Overlay Maps, as amended by Exhibit E hereto, copies of which are available in the office of the City Clerk.

SECTION 12. The City Council hereby repeals in their entirety Resolution Nos. 76-12, 85-115 and 88-93 pertaining to the current adopted general plan elements, and any amendments thereto.

SECTION 13. The City Clerk shall certify to the adoption of this Resolution.

PASSED, APPROVED and ADOPTED this 25th day of January, 1993, by the following vote:

AYES: Councilmembers Myers Davies, Jones, Root & Mayor Ledford

NOES: None

ABSENT: None ABSTAIN: None

James C. Ledford, Jr., Mayor

ATTEST:

Victoria L. Denham, City Clerk

Approved as to form:

William B. Rudell

City Attorney

GP/248

EXHIBIT B

COMMENTS ON THE DRAFT EIR
AND THE CITY'S RESPONSE TO THOSE COMMENTS

PALMDALE WATER DISTRICT

2005 East Avenue Q Palmdale, California 93550 Telephone 947-4111
FAX 947-8604
LAGERLOF SENECAL DRESCHER & SWIFT
Attorneys

Board of Directors
LESLIE O CARTER
Division 1
WALTER M DAHLITZ
Division 2
J B. FREEMAN
Division 3
JOHN M SIDWELL
Division 4
NOLAN NEGAARD
Division 5

RECEIVED
SEP 21 1992

September 18, 1992

Ms. Laurie Lile
City of Palmdale
Planning Department
38306 Ninth Street East
Palmdale, CA 93550

SUBJECT: DRAFT EIR - PALMDALE GENERAL PLAN

Dear Ms. Lile:

I have talked to various members of the staff, and it would appear that your consultant has not contacted us in preparing various sections of the City of Palmdale draft General Plan. In the hopes that I can clarify a few points and, by so doing, improve the work your consultants have compiled, I am submitting the following comments on your draft.

On Page PS-21, as a factual matter, Los Angeles County Water Works District is not a participant in the California State Water Project, and you might state that "the concern of the Palmdale Water District about the overdraft conditions has led to a legal challenge of Los Angeles County Water Works proposed ground water pumping practices. Palmdale Water District encourages all water suppliers to maximize the use of imported water."

On Page PS-22, it is incorrect to say there is a lack of capacity in the aqueduct. The remainder of the statement is correct.

On Page PS-25, you go on at some length as to the capacity of the AVEK water treatment plants. It should be recognized that these plants serve a large area including Lancaster, Rosamond, Lake Los Angeles, and so on. There has been no mention of the Palmdale Water District treatment plant. I would suggest a statement to the effect that "the Palmdale Water District water treatment plant was constructed in 1987 for a production rate of 12MG/day and is currently being expanded to a capacity of 30MG/day for the exclusive use of the Palmdale service

area. The AVEK plants are committed to service many other areas besides Palmdale."

Further down the page on PS-25, you say that the Palmdale Water District has a direct entitlement of 1,275.6 MGD from the State Water Project. This is entirely incorrect in that it states that we would be able to get over a billion gallons a day. May I suggest you change this statement to "Palmdale Water District has a direct entitlement of 17,300 acre feet per year from the State Water Project, and in addition, receives about 5,000 acre feet a year from the Littlerock creek for processing at its water treatment plant."

On Page PS-27, once again, you have quoted the number of 1,275.6 MGD. This is entirely wrong, and it should state "17,300 acre feet". Also on that page, you say that AVEK encourages the use of imported water to help recharge ground water. The term "recharge" is incorrect and should be "conserve". Further in that paragraph, you say that ground water wells continue to be the main source - 80% of the water supply in Palmdale. I would suggest this to say that "ground water wells continue to be a major source - 50% of the water supply in Palmdale.

On Page PS-28, it would be well to check the status of the Water Districts. Both Palmdale Water District and Littlerock Creek Irrigation District are public agencies. Also, the entire text should show that "Littlerock" is one word.

On Page PS-29, you have listed a ground water contaminate of nitrates due to septic tank leakage and septic tank age. I think you will find that the leakage and age of septic tanks has very little to do with the creation of nitrates in ground water but that nitrates are a natural by-product of septic tank disposal.

EIR Comments

On Page 3-197, the total State Water Project entitlement to the Palmdale planning area is not 158,000 acre feet per year. AVEK has an area of 2,383 square miles, which is 1,525,120 acres. Your report states on Page 1-13 that your planning area is 111,527 acres. This would indicate that Palmdale's share of the AVEK entitlement is 10,091 acre feet, not 138,400 acre feet. PWD #1

On Page 3-200, it should be noted that our existing water consumption is an average of 760 gpd/du. PWD #2

Also on Page 3-200 in the section on Water Treatment, there is no mention of the Palmdale Water District plant built in 1987 and now being enlarged to 30 MGD. PWD #3

On Page 3-203, we pay $68.00 per acre foot of untreated water, and we do not buy treated water.] PWD #4

On Page 3-204, it should be noted that we now have a 29 MG capacity of treated water storage in twelve reservoirs.] PWD #5

On Page 4-173, we are currently using 760 gallons per dwelling per day.] PWD #6

The analysis on page 4-172 should be reworked completely since the Palmdale share of AVEK is only 10,091 acre feet although it might be safe to assume a higher value, such as 15,000 acre feet, which added to the Palmdale Water District 17,300 acre feet and Littlerock Creek Irrigation District 2,300 acre feet would amount to potentially 35,000 acre feet of State Project Water. In addition to that, there is about 5,000 acre feet that can be provided by Littlerock Creek Irrigation District and Palmdale Water District from the Littlerock Dam. The ground water could be estimated at approximately 10,000 acre feet a year for this area. When you look at all these numbers, you can see that we have a great concern about getting the message out to the general public that the water resources are a very limiting factor on the future of the Antelope Valley. With this in mind, the Board of Directors of the Palmdale Water District has contacted San Luis Obispo County in an attempt to acquire the rights to additional State Water Project entitlement.] PWD #7

I would sincerely like to spend some time with you so that we might correct any erroneous data and have your document stand up to any challenges that may occur. Please contact me if you have any questions.

Very truly yours,

Harold M. Fones

HAROLD M. FONES,
General Manager

HMF/dtr

cc: Board of Directors

PALMDALE WATER DISTRICT

2005 East Avenue Q · Palmdale, California 93550

Telephone 947-4111
FAX 947-8604

LAGERLOF SENECAL DRESCHER & SWIFT
Attorneys

Board of Directors

LESLIE O CARTER
Division 1
WALTER M. DAHLITZ
Division 2
J B. FREEMAN
Division 3
JOHN M SIDWELL
Division 4
NOLAN NEGAARD
Division 5

SEP 22 19..

September 21, 1992

Ms. Laurie Lile
City of Palmdale
Planning Department
38306 Ninth Street East
Palmdale, CA 93550

SUBJECT: GENERAL PLAN EIR

Dear Ms. Lile:

In my letter Friday, I failed to take into account that AVEK does not serve the entire Palmdale planning area. It would seem that about 35,000 acres are not under AVEK with the net effect that the Palmdale planning area is 5.02% of the AVEK service territory. PWD2 #1

The incorrect use of the word "recharge" has been common in this area. Recharge is when water is brought from the outside and spread onto the ground or injected in wells to recharge the ground water aquifer. It is incorrect to call "bringing water into the area and using it" recharge. PWD2 #2

Very truly yours,

Harold M. Fones

HAROLD M. FONES,
General Manager

HMF/dtr

cc: Board of Directors

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (818) 458-5100

THOMAS A. TIDEMANSON, Director

ADDRESS ALL CORRESPONDENCE TO:
P O BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

SEP 25 1992

September 22, 1992

P-4

IN REPLY PLEASE
REFER TO FILE

Ms. Laurie Lile
City of Palmdale
Planning Department
38306 9th Street East
Palmdale, CA 93550

Dear Ms. Lile:

RESPONSE TO A DRAFT ENVIRONMENTAL IMPACT REPORT
CITY OF PALMDALE GENERAL PLAN

Thank you for the opportunity to provide comments on the Draft Environmental Impact Report (DEIR) for the City of Palmdale General Plan. Although, we have not completed the review of the DEIR, we offer the following comments. We will forward additional comments when we complete our review.

Traffic/Circulation

We believe a traffic study should be prepared for each major development to identify the traffic impacts and ensure that appropriate mitigation measures are proposed. The study should also address the cumulative impacts generated by the proposed development and other nearby developments and include level of service analyses for affected intersections and freeway interchanges. If traffic signals or other mitigation measures are warranted at the affected intersections, the developer should contribute to the cost. In addition, the developer should determine his proportionate share of signal or other mitigation costs and submit this information to this Department for review and approval. LAPW #1

We agree with the report's conclusion that even with the increased roadway capacities in the recommended circulation element and the transportation demand management measures outlined, many arterial segments within the City and unincorporated areas are projected to operate at LOS D or worse at the year of land use buildout. It may be necessary to reduce land use densities in certain areas, so that the entire roadway network will operate at acceptable levels of service. LAPW #2

If you have any questions regarding these comments, please contact Ms. Emiko Kanayama of our Traffic Investigations and Studies Section at (818) 458-5909.

Sewer Maintenance

Section 3.11.2 of DEIR should be expanded to include the following statement:

There are approximately 242 miles of local sewers within the jurisdiction of the City of Palmdale which discharge into the County Sanitation District 20 facilities. These sewers are owned by the City but are operated by the Consolidated Sewer Maintenance District (CSMD) of this Department. Therefore, future development will be required to annex to the CSMD for operational and maintenance purposes. LAPW #3

If you have any questions regarding these comments, please contact Mr. Norman Cortez of our Waterworks and Sewer Maintenance Division at (818) 458-7188.

Waterworks

Extensive comments are enclosed as Attachment 1. If you have any questions regarding these comments, please contact Mr. Nicholas Agbobu of our Waterworks and Sewer Maintenance Division at (818) 458-7159.

Questions regarding the environmental reviewing process of this Department can be directed to Ms. Clarice Nash at the letterhead address or at (818) 458-4334.

Very truly yours,

T. A. TIDEMANSON
Director of Public Works

for CARL L. BLUM
Assistant Deputy Director
Planning Division

MA:aa
WP/161

Enc.

ATTACHMENT 1

1. Page PS-21, First Paragraph

The third sentence of this paragraph should be changed to indicate that the ground water movement is northwesterly towards the pumping depression in Lancaster.

The data in the fourth sentence of this paragraph appears to be inconsistent. It states that Exhibit PS-1 shows the approximate ground water surfaces in the Spring of 1984 and that Table PS-1 shows the approximate depth of ground water for ten different locations as derived from Exhibit PS-1. However, Table PS-1 is the same as Table 3-9 which indicates that the source of information was from the Waterworks Districts in 1990 rather than 1984.

The last sentence of this paragraph states that overdrafting has caused the water levels to decline in recent years. This statement may be true for the period between 1920 to 1977. However, between 1977 to 1986, the water levels stabilized and between 1986 to 1992, they have risen. See Long Term Hydrograph, Appendix C, Law Environmental Inc., Report (November 25, 1991) which correlates USGS 20 years of USGS water well monitoring for AVEK with well records of the Waterworks Districts.

2. Page PS-22, Last Paragraph

This paragraph states that the State provides less than half of AVEK's total entitlement each year and that this level of delivery is due to lack of capacity in the aqueduct relative to downstream use. This statement appears to be incorrect. It is our understanding that the aqueduct has adequate capacity, if the restriction at the Banks pumping plant in the Sacramento River delta region was eliminated, and additional seasonal storage south of the delta was constructed. To solve these problems, the DWR installed four pumps increasing the total capacity to 10,300 cfs or 60,000 Ac-Ft. These pumps would be utilized during high flow winter months and would be used to meet entitlement deliveries. DWR is also proceeding with the scheduled completion in 1995 of the 300,000 Ac-Ft Kern Water Bank Recharge and Extraction Facilities and completion of the 300,000 Ac-Ft Los Banos Grandes Reservoir.

The last sentence of this paragraph states that if the drought continues the entitlement could be reduced to the 1985 level when AVEK did not receive any water from the state. This statement should also be verified. According to DWR bulletin 132-87, AVEK received 37,064 Ac-Ft that year. The procedure utilized to allocate deliveries during droughts is described in article 18 of the state contract. The interpretion of this provision, specifically whether reductions should be based on entitlement or deliveries, is the subject of on-going discussions. Historically, the reduction was based on the ratio of each contractor's entitlement to the total project entitlement. The

prorated reductions were then subtracted from the contractor's demand Delivery reductions are determined by DWR each year using a risk analysis.

3. Page PS-25, First Paragraph, Fourth Sentence

This sentence states that the AVEK Eastside Treatment Plant is working at its maximum capacity of 10 MGD, with no plans for expansion. Our information from AVEK is that this plant will be expanded to 28 MGD in the future when the need arises. At this time, Waterworks District No. 4 is aware of developments on the eastside of Lancaster which may require the enlargement of this plant.

It should be noted that in a conjunctive use program such as the "In lieu of Pumping" program, water levels may sometimes decline, especially during drought conditions. However, this should not be considered as overdrafting of the basin. This is due to the fact that recovery will take place during the next wet climatic cycle.

4. Page PS-27, Fourth Paragraph

Hydrographs of over 200 water wells in the basin, monitored over 20 years, indicate that ground water levels have since 1986 generally stabilized and are now rising even during this drought period. Therefore, we suggest that the word "Continued" in the first sentence of this paragraph be omitted.

"The 80 percent of the water supply of Palmdale" as being ground water should be verified. According to our data, the total ground water extractions amounted to approximately 45 percent in 1989. This fluctuates yearly, depending on agricultural demands, growth, and drought.

5. Page PS-27, Last Paragraph

This presents the worst and most improbable scenario. Although many of the water purveyors who rely totally on the ground water supply and do not make the most efficient conjunctive use of the Valley Resources, existing data confirms the decrease in agricultural use and the "In lieu of Pumping" program, recommended by DWR and adopted by the Waterworks Districts, Quartz Hill Water District, and Palm Ranch Water District have contributed to the stabilization and rise of water levels. Claims that the current ground water extractions are still exceeding the natural recharge are refuted by the fact that the water levels of over 200 water wells stabilized and rising. Claims that some water wells are declining may be from over-pumping of the wells over long periods of time and the resultant creation of a localized pumping trough.

6. Page PS-28

Table PS-2 should be revised to show that Palmdale Water District, Palm Ranch Irrigation District, Quartz Hill Water District, and Littlerock Creek Irrigation District are public water agencies and are not private.

EIR Comments

7. Page 3-62, Second Paragraph

The data shown is not entirely correct. An average annual recharge of 40,700 Ac-Ft was estimated by Durbin (1978) as part of the comprehensive study made by USGS and DWR. From the USGS mathematical model, DWR estimated the storage capacity of 68,000,000 Ac-Ft. The source of 88 million Ac-Ft should be further verified. It should also be noted that the Department of Public Works has not estimated the average annual recharge, but has been using the 58,000 Ac-Ft estimated by R.M. Bloy, Jr. of USGS in 1967. LAPW/ Wrwks #7

8. Page 3-62, Third Paragraph

The first sentence of this paragraph, "Subsurface flows from adjoining areas is the least probable means of recharge" should be further expanded or clarified. Subsurface flows include stream flow infiltration which is an important source of recharge. LAPW/ Wtrwks #8

9. Page 3-63, Third Paragraph

Regarding the disagreement on storage and extraction figures, it is our opinion that there is no basis for disagreement. DWR is the only agency that has estimated the storage capacity of the ground water basin. This estimate was based on the data generated by USGS and DWR for the comprehensive study of the basin. The disagreement on extraction figures is that these figures do not reflect extractions for the same period, or conditions. Considering that drought conditions persisted and that state water was cut back, agriculture as well as others had to extract larger amounts of ground-water. Therefore, there is no basis for this either. LAPW/ Wtrwks #9a

The word "safely" in the third sentence of this paragraph is not appropriate. LAPW/ Wtrwks #9b

The "88" million Ac-Ft should be changed to 68 million in the next to last sentence of the fourth paragraph. LAPW/ Wtrwks #9c

10. Page 3-64, First Paragraph

We do not agree with the data in this paragraph. We believe that the rate of decline of 12-feet per year is high. The average rate was from 4 to 6 feet per year. Also the "drawdown of 100 feet or more" in the first sentence is not correct. The average drawdown in our district's well is 31 feet. LAPW/ Wtrwks #10

It should be noted that since 1986, the Waterworks District have not experienced 6-feet per year declines. This statement should be modified and the data for 6-feet decline verified. This may be caused by over-pumping of that part of the aquifer.

The last sentence of this paragraph is not accurate. The well records of over 200 wells monitored by USGS, Edison Company and the Waterworks Districts indicate that the water levels have stabilized and are rising. The whole paragraph should be revised.

LAPW/ Wtr wks #10

Third Paragraph, First Sentence

"Mohave" should be changed to Antelope Valley. Also, the last sentence of this paragraph seems to be based on speculation. USGS report No. 84-4081 indicates that in general, throughout the Antelope Valley, groundwater quality has remained unchanged and no specific trends of change are apparent. The report indicates that in the vicinity of Littlerock, concentrations of nitrates exceed the MCL of public water supply criteria. This may be attributed to nitrogen fertilizers used on orchards. However, we would agree that urban run-off, septic tanks and perched water conditions may be potential sources of contamination.

11. Page 3-65, First Paragraph

This last sentence should be expanded to state that the reason AVEK received only 9,600 Ac-Ft was due to the state's drought conditions. The figure of 9,600 Ac-Ft should be verified. Our records for Waterworks District No. 4 indicates that demands for 1991 were 22,100 Ac-Ft and that 51% of the demand or 11,271 Ac-Ft were bought from AVEK.

LAPW Wtr wks #11

12. Page 3-200, Table 3-29 and Page 4-173, Table 4-16

The water consumption rate factors used in these tables are not accurate. We suggest you use the following factors:

LAPW/ Wtr wks #12

Land Use	Consumption Factor
Residential	750 gpd/du
Heavy Commercial (industrial)	3,000 gal/Acre/day
Light Commercial	2,000 gal/Acre/day
Parks, and Green Belts	1,500 gal/Acre/day

13. Page 3-201, First Paragraph

Next to last sentence states that AVEK and Palmdale may be intertied through the AVEK Acton Water Treatment Plant facilities. It is our understanding that these facilities were sized to only provide water to the Acton area.

LAPW/ Wtr wks #13

14. Page 3-201, Next to Last Paragraph

This paragraph should be revised as follows:

Water bought from the Antelope Valley East-Kern Water Agency (AVEK) is conjunctively used with ground water pumped from 33 wells of Waterworks Districts 4 and 34 and nine wells of Waterworks Districts 24, 27, and 33. The water systems are interconnected and their operations consolidated. It is the intent of the Department of Public Works to consolidate the Districts to more efficiently operate the "in lieu of pumping" and artificial storage and recovery programs. Generally, 60% of the Waterworks Districts' water demands are met by AVEK supplemental water supply and 40% from ground water. The Waterworks Districts plan to use, as facilities are expanded, 80% supplemental water to meet future demands. LAPW/ wtrwks #14

15. Page 3-203, First Paragraph

The 28 should be corrected to 33 water wells. LAPW/ wtrwks #15a

Second paragraph indicates that Waterworks Districts 24, 27, and 33 use only water from AVEK. This should be corrected to indicate that they also use ground water. This is covered above. LAPW/ wtrwks #15b

16. Page 3-204, Fourth Paragraph

It appears that the description of the wells as "provision" and "eight drinking wells" is incorrect. LAPW/ wtrwks #16

17. Page 3-204, Last Paragraph, Last Sentence

This sentence should be corrected. AVEK is not a source of supply to Littlerock Creek Irrigation District. That District contracts directly with DWR and has a 2,300 acre-foot entitlement. LAPW/ wtrwks #17

18. Page 4-55, Water Resources

This section does not reflect present or future conditions and is based on speculation. It should be noted that any depletion of the ground water supply is dependent on the usage and management of both the ground water basin and the imported water supplies and not entirely on the amount of recharge. The cost of the imported water supply should not be a factor if development and the economy of the Valley are not allowed to stagnate. LAPW/ wtrwks #18

19. Page 4-56, Second Paragraph

It is not true that ground water levels are steadily declining (See our previous comments). It should also be noted that the Waterworks Districts in order to mitigate the ground water extractions during the current drought cycle, not only distributed water conservation kits, but also produced educational programs and encouraged use of drought resistant landscaping to make more efficient use of water. The Districts also instituted mandatory conservation measures. No other water purveyor in the Valley instituted such a measure. The Waterworks Districts are also pursuing an artificial storage and recovery program. Our studies show that this is feasible and will be conducting an aquifer test, in cooperative effort with USGS early next year. This program will be instituted upon completion of the necessary environmental documents and permits from EPA and the State Water Quality Control Board. LAPW/ WtrWks #19

20. Page 4-56, Fourth Paragraph

The statement that reduced flows from Amargosa and Littlerock Creeks could result in water for resurfacing of Lake Beds for space and test flights operations should be further investigated. From data that we have seen, it appears that flooding will hamper operations at the test center. LAPW/ WtrWks #20

21. Page 4-57, To End

The data on this page dismisses the availability of State water and the adoption of a conjunctive use program in the area. It dwells only on the alleged safe yield of the basin without consideration of the economics and physical characteristics of the basin. See our previous comments. LAPW/ WtrWks #21

MA:aa
P-4/161

State of California

The Resources Agency

Memorandum

Date : August 17, 1992

To : 1. Project Coordinator
2. City of Palmdale
38306 Ninth Street East
Palmdale, California 93550
Attention: Laurie Lile

From : Department of Water Resources

Subject : SCH 87120908, City of Palmdale Draft General Plan/Draft Environmental Impact Report

The Division of Operations and Maintenance of the Department of Water Resources has received and reviewed the above referenced documents designated as SCH 87120908.

They detail the City of Palmdale's future plans for expansion and growth through the year 2010. Of immediate concern are the proposed developments which will potentially impact the California Aqueduct. This review will address only those issues. There appears to be no environmental conflict.

The general plan/DEIR and accompanying engineering plans reflect three new bridges which will span the California Aqueduct in the future. Of the three bridges, only two have designated names. The two bridges are:

1. Ritter Ranch Road bridge
2. City Ranch Road bridge

The remaining bridge is not named.

Department policy is that any encroachment within DWR right-of-way will require a fully executed encroachment permit. All bridge designs within Aqueduct right-of-way shall be designed as single-span bridges. No support members will be allowed within the Aqueduct. In addition, the City of Palmdale will be responsible for all future maintenance and repair of the bridges once their installation has been completed. If the bridges are to be dedicated to the County of Los Angeles or to Caltrans, then they must accept the responsibility for future repair and maintenance costs. DWR #1

The reviewed documents were not very specific as to drainage improvements associated with the City of Palmdale's future development(s). DWR would like the opportunity to review all drainage improvement plans proposed in the vicinity of the Aqueduct, as they become available. DWR #2

To obtain an encroachment permit package, please write to the following:

Department of Water Resources
Division of Land and Right of Way
Post Office Box 942836
Sacramento, California 94236-0001
Attention: Clifford Winston

If you have any questions regarding DWR's review of SCH 87120908, please contact David Wrightsman at (916) 653-7168.

Keith Barrett, Chief
Division of Operations
and Maintenance

COUNTY SANITATION DISTRICTS
OF LOS ANGELES COUNTY

1955 Workman Mill Road, Whittier, CA 90601-4998
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
Telephone: (310) 699-7411, FAX: (310) 695-6139

CHARLES W. CARRY
Chief Engineer and General Manager

August 26, 1992

File No: 20-00.04-00

Ms. Laurie Lile
City of Palmdale Planning Department
38306 Ninth Street East
Palmdale, CA 93550

Dear Ms. Lile:

Palmdale General Plan

The County Sanitation Districts received a *Draft Environmental Impact Report* for the subject project on August 13, 1992. We have the following comments on the wastewater impacts section of the subject document.

- As stated in the Draft EIR, sewerage service is provided to the City of Palmdale primarily by County Sanitation District (District) No. 20, and secondarily by District No. 14.

  District No. 20 is served by the Palmdale Water Reclamation Plant (PWRP). The present design capacity of the PWRP is 8.0 million gallons per day (mgd), and the PWRP presently treats an average flow of 8.1 mgd. In order to meet the current service demand, the Sanitation Districts are presently expanding the treatment capacity of the PWRP through surface aeration of the existing oxidation ponds. Stage IV of the ongoing PWRP expansion will increase the design capacity of the treatment plant to 15 mgd and is scheduled to be completed in mid 1994.

  District No. 14 is served by the Lancaster Water Reclamation Plant (LWRP). The present design capacity of the LWRP is 10.0 mgd, and the LWRP presently treats an average flow of 8.2 mgd. In order to meet the current service demand, the Sanitation Districts are presently expanding the treatment capacity of the LWRP through surface aeration of the existing oxidation ponds. Stage IV of the ongoing LWRP expansion will increase the design capacity of the treatment plant to 16.0 mgd and is scheduled to be completed in late 1994. SAN #1

- In addition to the above mentioned treatment facilities, the Sanitation Districts own, operate, and maintain wastewater conveyance facilities within the proposed project area. The impacts of the proposed project on these facilities should be addressed in the project environmental document. SAN #2

- Individual projects associated with the proposed General Plan may require a Districts' Permit for Industrial Wastewater Discharge. Project developers should contact the Sanitation Districts' Industrial Waste Section to reach a determination on this matter. If this permit is necessary, the project developer must submit a copy of the final plans to the Districts for review and approval prior to construction. SAN #3

Recycled Paper

- The design capacity of Districts' wastewater conveyance and treatment facilities are based on population forecasts adopted in the 1991 South Coast Air Quality Management Plan (AQMP). The AQMP was jointly prepared by the South Coast Air Quality Management District (SCAQMD) and the Southern California Association of Governments (SCAG) as a requirement of the Federal Clean Air Act (CAA). In order to conform with the AQMP, all expansions of Districts' facilities must be sized and service phased in a manner which is consistent with the Growth Management Plan (GMP). The GMP is a regional growth forecast for the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial which was prepared by SCAG. Specific policies included in the GMP which deal with the management and distribution of growth are incorporated into the AQMP strategies to improve air quality in the South Coast Air Basin. The available capacity of Districts' conveyance and treatment facilities will, therefore, be limited to levels associated with approved growth identified in the adopted GMP/AQMP. As such, this letter does not constitute a guarantee of wastewater service, but is intended to communicate the Districts' willingness to provide this service up to the levels which are legally permitted and to inform you of the currently existing capacity and any proposed expansion of Districts' facilities.

SAN #4

If you have any questions, please contact the undersigned at (310) 699-7411, extension 2728.

Very truly yours,

Charles W. Carry

David B. Lambert
Project Engineer
Financial Planning &
Property Management Section

DBL:rc

N:\ENV\ADEIR\ENV\ADEIRFALL.MOP.2L2

FIRE DEPARTMENT
1320 NORTH EASTERN AVENUE
LOS ANGELES CALIFORNIA 90063-3294
(213) 881-2481

SEP 8 1992

P MICHAEL FREEMAN
FIRE CHIEF
FORESTER & FIRE WARDEN

September 2, 1992

Ms. Laurie Lile
City of Palmdale
Planning Department
38306 9th Street East
Palmdale, CA 93550

Dear Ms. Lile:

SUBJECT: ENVIRONMENTAL IMPACT REPORT -- CITY OF PALMDALE (PALMDALE GENERAL PLAN) -- TWO-VOLUME SET

We have reviewed the Draft Environmental Impact Report for the City of Palmdale General Plan. The environmental resources element of the plan has addressed the areas germane to the Forestry Division of the Los Angeles County Fire Department. The goals, objectives, and proposed policies will provide the necessary broad guidelines for future development. Individual projects will provide the specific analysis required to determine the actual impacts.

We recommend the conservation of open space in addition to the identification and preservation of significant ecological areas. This can be accomplished through creative design and adherence to the Native Desert Vegetation Ordinance. LACFD #1

Fire hazard reduction/fuel management plans should be developed and implemented prior to construction. Native/low fuel volume plants should be mandatory in the revegetative plan required for each project. This will limit the potential threat of wildland fires. LACFD #2

If you have additional questions, please contact this office at (213) 881-2481.

Very truly yours,

P. MICHAEL FREEMAN

John T. Haggenmiller by [illegible]

BY
JOHN T. HAGGENMILLER, ACTING CHIEF, FORESTRY DIVISION
PREVENTION BUREAU

JTH:lc

State of California

Memorandum

THE RESOURCES AGENCY OF CALIFORNIA

RECEIVED SEP 5 1992

To : Mr. Douglas P. Wheeler
Secretary for Resources

Ms. Laurie Lile
Palmdale Planning Department
38306 9th Street East
Palmdale, CA 93550

Date : September 21, 1992

Subject: Draft Envronmental Impact Report (DEIR) for the Palmdale General Plan Update
SCH #87120908

From : Department of Conservation—Office of the Director

The Department of Conservation has reviewed the Draft Environmental Impact Report (DEIR) for the above-referenced project, and has the following comments.

Mineral Resource Policies

The DEIR and the draft General Plan address mineral zones located along creekbeds on the east side of the City. These areas (depicted on Exhibit 3-19 of the DEIR) have been classified and designated by the State as containing regionally important mineral resource deposits. Both the classification report (Special Report 143, Part V; 1984) and the designation maps (Designation Report No. 6; 1987) identify these areas as Sectors D1 through D5. The DEIR indicates that 5,738 acres (better than 1/2 of the designated mineral area) will be identified as Mineral Resource Extraction (MRE) and made available for mining activities. It appears that the City will eventually propose to permit other land uses on the remaining portion of the designated area.

Pursuant to Section 2762(a) of the Surface Mining and Reclamation Act (SMARA), lead agencies which have State classified and/or designated lands within their jurisdiction are required to establish Mineral Resource Management Policies in their General Plan that will: (1) recognize mineral information classified by the State Geologist; (2) assist in the management of land uses which affect areas of statewide and regional significance; and (3) emphasize the conservation and development of identified mineral deposits. These policies must be forwarded to the Board for review and comment prior to lead agency adoption.

The draft General Plan recognizes that these policies must be developed, and in fact, copies of proposed Mineral Resource Management Policies drafted by the City were forwarded to the Board for review in April 1991 and again in July of 1991. However, based on its reviews, the Board determined that both sets of the policies did not comply with existing statute (copies of transmittal letters attached). We would recommend that the City formally request Board review of the final draft policies prior to taking action on the General Plan Update, so that the policies may be included within the General Plan as required by SMARA. SDC #1

The Environmental Resources Element of the Draft General Plan includes a Section on Mining Standards. If these standards are in any way intended to amend the City's existing surface mining and reclamation ordinance, please forward such amendments to the Board for review and recertification. SDC #1

Geologic Hazards

The Department's Division of Mines and Geology has concerns with respect to high-intensity development within the San Andreas Rift Zone. However, the DEIR for the General Plan proposes several policies that would restrict the type and density of development in the San Andreas Rift Zone. Policies which restrict the Rift Zone to open space, low-density and rural land uses, and the policy that restricts the location of utility lines near the fault, are positive. SDC #2

The Department appreciates the opportunity to comment on the DEIR and the proposed General Plan. We hope that the above issues are given adequate consideration in the FEIR. If I can be of further assistance, please feel free to call me at (916) 445-8733.

Deborah L. Herrmann

Deborah L. Herrmann
Environmental Program Coordinator

Attachments

cc: Denise M. Jones, Executive Officer
State Mining and Geology Board
Roger Martin, Division of Mines and Geology
Jack McMillan, Division of Mines and Geology

STATE OF CALIFORNIA - THE RESOURCES AGENCY

PETE WILSON, Governor

DEPARTMENT OF CONSERVATION

STATE MINING AND GEOLOGY BOARD
1416 Ninth Street, Room 1326-A
Sacramento, CA 95814

James A. Anderson, Chairman
Bob Grunwald
DeWayne Holmdahl
I.M. Idinas
Anne Jahs
J.H. Jack Lucas
R. Gary Miller
Jack Sieblaw

August 7, 1991

Telephone: (916) 322-1082
TDD Line: (916) 324-2555

Frederick W. Buss, Acting
Director of Planning
City of Palmdale
38300 North Sierra Highway
Palmdale, CA 93550

Dear Mr. Buss:

Thank you for your response to the State Mining and Geology Board's (the Board) May 21, 1991 comments on the City of Palmdale's proposed mineral resource management policies. Thank you also for the text and policy statements, which are intended to supplement the City of Palmdale's mineral resource management policies.

Following are my comments on the City's supplemental policy provisions developed to address Board criteria (California Code of Regulations, Title 14, section 3676) for mineral resource management policies that were not addressed in the City's initial policies.

Criteria - A summary of the information provided in the classification and designation reports, or incorporation by reference of SMARA and Board policy, together with either a map of the identified mineral deposits or incorporation by reference of the classification and designation maps provided by the Board. (CCR section 3676[a])

Comments - The City's "Summary of Classification and Designation Reports" includes information on the State's designation of important mineral resources (Designation Report No. 6, Designation of Regionally Significant Construction Aggregate Resource Areas in the Saugus-Newhall and Palmdale Production-Consumption Regions). However, a map of the designated areas has not been included in the policies. The map provided only shows classified mineral deposits.

Also, except for the inclusion of Exhibit A (Special Report 143 Plate 5.1), there is no information in the summary of the State's classification of important mineral resources

(Special Report 143, Part V, Classification of Sand and Gravel Resource Areas, Saugus-Newhall Production-Consumption and Palmdale Production-Consumption Region).

Classification and designation are two separate processes and SMARA section 2762(a) requires that information on both classified and designated mineral deposits be addressed in cities' and counties' mineral resource management policies.

Criteria - Statements of policy in accordance with SMARA section 2762(a). (CCR section 3676[b])

Comments - The City's supplemental text and policy statements provide statements of policy that assist in the management of land uses which affect areas of statewide and regional significance and emphasize the conservation and development of identified mineral deposits. However, in order for the City's policies to fully comply with SMARA section 2762(a) and CCR section 3676(b), the policies must recognize mineral information classified by the State and transmitted by the Board (Special Report 143).

Criteria - Reference in the General Plan of the classified and designated mineral deposits and a discussion of those mineral resource areas targeted by the lead agency for conservation and possible future extraction. (CCR section 3676(c)(1)

Comments - Again, the City's summary must include information on classified mineral deposits. Also, Special Report 143 Plate 5.1 does not show the location of both classified and designated mineral resource areas. Special Report 143 Plate 5.1 only shows the location of mineral resource areas classified by the State Geologist. Mineral resource areas designated by the State Mining and Geology Board are depicted on SMARA Designation Map 85-3 Plates 5-9 (copy enclosed).

Also, until the City of Palmdale has determined the boundaries for the MRE designation and specified those boundaries in the policies, the Board cannot determine that the policies meet Board criteria. The policies must identify which mineral resource areas are targeted for conservation and possible future development.

As you know, the identification of important mineral resource areas by the State does not preclude cities and counties from deciding the best use for land within their jurisdictions. However, it is important in deciding land use that information on the importance of the classified and designated mineral resources and the impact of the loss of those resources be included in the decisionmaking process. If information on designated mineral resource areas is not disclosed during the process, and a land use decision is made that precludes the development of a designated mineral resource area, an aggrieved party can appeal the lead agency's land use decision to the Board.

Again, thank you for your response to the Board's review of the City of Palmdale's mineral resource management policies. I look forward to reviewing the policies again when the MRE boundaries have been determined.

Sincerely,

James A. Anderson

James A. Anderson
Chairman

cc: Mayor William J. Knight
Mayor pro Tem, Joseph Davies
City Councilmembers:
Janis Hamm
James Ledford
James Root
City Administrator, Robert W. Toone

STATE OF CALIFORNIA - THE RESOURCES AGENCY

PETE WILSON, Governor

DEPARTMENT OF CONSERVATION

STATE MINING AND GEOLOGY BOARD
1416 Ninth Street, Room 1328-A
Sacramento, CA 95814

James A. Anderson Chairman
Bob Grunwald
DeWayne Holmdahl
I.M. Idriss
J.H. Jack Lucas
R. Gary Miller

May 21, 1991

Telephone: (916) 322-1082
TDD Line: (916) 324-2555

Honorable William J. Knight
Mayor, City of Palmdale
38300 North Sierra Highway
Palmdale, CA 93550

Dear Mayor Knight:

Thank you for your timely response to my letter regarding the City of Palmdale's development of mineral resource management policies for important mineral deposits classified and designated by the State. As you know, the development of these policies is required pursuant to California's Surface Mining and Reclamation Act (SMARA, Public Resources Code Section 2710 et seq.).

I am pleased to learn that the City is in the process of developing mineral policies in response to information transmitted by the State Mining and Geology Board ("the Board"). However, I am unsure as to whether the information you provided in your letter was to advise me of the City's progress to date on the policies or whether the information provided is intended to serve as the City's proposed mineral resource management policies.

If the information you submitted is informational, please note that the City's proposed policies must be submitted to the Board for review and comment prior to the City's final adoption of the policies (SMARA Section 2762[b]). If, however, the information submitted is intended to serve as the City's policies, I have the following comments.

The policies do provide a Mineral Resource Extraction designation where mineral resource extraction activities would be allowed. However, Exhibit LU-2, delineating the Mineral Resource Extraction district, was not included for Board review in the information provided. Also, additional provisions would need to be incorporated in the policies in order to meet the following criteria as outlined in Board policy (California Code of Regulations, Title 14, Sections 3675-3676; copy enclosed):

(1) A summary of the information provided in the classification and designation reports, or incorporation by reference of SMARA and Board policy, together with either a map of the identified mineral deposits or incorporation by reference of the classification and designation maps provided by the Board.

(Although the information you provided did include a map of the designated deposits, the information did not include the other criteria above.)

(2) Statements of policy in accordance with SMARA Section 2762(a).

(3) Reference in the General Plan of the classified and designated mineral deposits and a discussion of those mineral resource areas targeted by the lead agency for conservation and possible future extraction.

(4) Use of an overlay map or inclusion of information on any appropriate planning maps to clearly delineate identified mineral deposits, and those areas targeted by the lead agency for conservation and possible future extraction.

I hope that this information will be of assistance to you. If you have any questions regarding the above information, please contact Ms. Deborah L. Herrmann, Executive Officer, State Mining and Geology Board, 1416 - 9th Street, Room 1326-A, Sacramento, California 95814, telephone (916) 322-1082.

Sincerely,

James A. Anderson

James A. Anderson
Chairman

cc: Mayor pro Tem, Joseph Davies
City Councilmembers:
Janis Hamm
James Ledford
James Root
Planning Director, Clyde Evans

CALIFORNIA DEPARTMENT OF CONSERVATION
DIVISION OF MINES AND GEOLOGY

DMG NOTE 26

SURFACE MINING AND RECLAMATION ACT OF 1975

(As amended by Senate Bill 1300, Nejedly - 1980 Statutes,
Assembly Bill 110, Arnies - 1984 Statutes,
Senate Bill 593, Royce - 1985 Statutes,
Senate Bill 1261, Seymour - 1986 Statutes,
Assembly Bill 747, Sher - 1987 Statutes,
Assembly Bill 3551, Sher - 1990 Statutes,
Assembly Bill 3903, Sher - 1990 Statutes,
and Assembly Bill 1506, Sher - 1991 Statutes)

Article 1. General Provisions

§2710. This chapter shall be known and may be cited as the Surface Mining and Reclamation Act of 1975.

§2711. (a) The Legislature hereby finds and declares that the extraction of minerals is essential to the continued economic well-being of the state and to the needs of the society, and that the reclamation of mined lands is necessary to prevent or minimize adverse effects on the environment and to protect the public health and safety.

(b) The Legislature further finds that the reclamation of mined lands as provided in this chapter will permit the continued mining of minerals and will provide for the protection and subsequent beneficial use of the mined and reclaimed land.

(c) The Legislature further finds that surface mining takes place in diverse areas where the geologic, topographic, climatic, biological, and social conditions are significantly different and that reclamation operations and the specifications therefore may vary accordingly.

§2712. It is the intent of the Legislature to create and maintain an effective and comprehensive surface mining and reclamation policy with regulation of surface mining operations so as to assure that:

(a) Adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition which is readily adaptable for alternative land uses.

(b) The production and conservation of minerals are encouraged, while giving consideration to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment.

(c) Residual hazards to the public health and safety are eliminated.

§2713. It is not the intent of the Legislature by the enactment of this chapter to take private property for public use without payment of just compensation in violation of the California and United States Constitutions.

§2714. This chapter does not apply to any of the following activities:

(a) Excavations or grading conducted for farming or onsite construction or for the purpose of restoring land following a flood or natural disaster.

(b) Prospecting for, or the extraction of, minerals for commercial purposes and the removal of overburden in total amounts of less than 1,000 cubic yards in any one location of one acre or less.

(c) Surface mining operations that are required by federal law in order to protect a mining claim, if those operations are conducted solely for that purpose.

(d) Any other surface mining operations that the board determines to be of an infrequent nature and which involve only minor surface disturbances.

(e) The solar evaporation of sea water or bay water for the production of salt and related minerals.

§2715. No provision of this chapter or any ruling, requirement, or policy of the board is a limitation on any of the following:

(a) On the police power of any city or county or on the power of any city or county to declare, prohibit, and abate nuisances.

(b) On the power of the Attorney General, at the request of the board, or upon his own motion, to bring an action in the name of the people of the State of California to enjoin any pollution or nuisance.

(c) On the power of any state agency in the enforcement or administration of any provision of law which it is specifically authorized or required to enforce or administer.

(d) On the right of any person to maintain at any time any appropriate action for relief against any private nuisance as defined in Part 3 (commencing with Section 3479) of Division 4 of the Civil Code or for any other private relief.

(e) On the power of any lead agency to adopt policies, standards, or regulations imposing additional requirements on any person if the requirements do not prevent the person from complying with the provisions of this chapter.

(f) On the power of any city or county to regulate the use of buildings, structures, and land as between industry, business, residents, open space (including agriculture, recreation, the enjoyment of scenic beauty, and the use of natural resources), and other purposes.

§2716. Any person may commence an action on his own behalf against the board or the State Geologist for a writ of mandate pursuant to Chapter 2 (commencing with Section 1084) of Title 1 of Part 3 of the Code of Civil Procedure to compel the board or the State Geologist to carry out any duty imposed upon them pursuant to the provisions of this chapter.

§2717. The board shall submit to the Legislature on December 1st of each year a report on the actions taken pursuant to this chapter during the preceding fiscal year. Such report shall include a statement of the actions, including legislative recommendations, which are necessary to carry out more completely the purposes and requirements of this chapter.

Geologic Information Office, 655 Beville Drive, Sacramento, CA 95814-0131, (916) 445-5716. MAIL ORDER, P.O. Box 2980, Sacramento, CA 95812-2980. Los Angeles Office, 107 South Broadway Room 1065, Los Angeles, CA 90012-4402, (213) 620-3560. Bay Area Office, One Trinity Center, 1145 Market Street, Third Floor San Francisco, CA 94103-1513, (415) 557 1308.

DOUGLAS P. WHEELER, *Secretary*
THE RESOURCES AGENCY

PETE WILSON, *Governor*
STATE OF CALIFORNIA

EDWARD G. HEIDIG, *Director*
DEPARTMENT OF CONSERVATION

ordinances. The state policy shall not include aspects of regulating surface mining operations which are solely of local concern, and not of statewide or regional concern, as determined by the board, such as, but not limited to, hours of operation, noise, dust, fencing, and purely aesthetic considerations.

§2758. Such policy shall include objectives and criteria for all of the following:

(a) Determining the lead agency pursuant to the provisions of Section 2771.

(b) The orderly evaluation of reclamation plans.

(c) Determining the circumstances, if any, under which the approval of a proposed surface mining operation by a lead agency need not be conditioned on a guarantee assuring reclamation of the mined lands.

§2759. The state policy shall be continuously reviewed and may be revised. During the formulation or revision of such policy, the board shall consult with, and carefully evaluate the recommendations of, the State Geologist, any district technical advisory committees, concerned federal, state, and local agencies, educational institutions, civic and public interest organizations, and private organizations and individuals.

§2760. The board shall not adopt or revise the state policy unless a public hearing is first held respecting their adoption or revision. At least 30 days prior to such hearing, the board shall give notice of the hearing by publication pursuant to Section 6061 of the Government Code.

§2761. (a) On or before January 1, 1977, and, as a minimum, after the completion of each decennial census, the Office of Planning and Research shall identify portions of the following areas within the state which are urbanized or are subject to urban expansion or other irreversible land uses which would preclude mineral extraction:

(1) Standard metropolitan statistical areas and such other areas for which information is readily available.

(2) Other areas as may be requested by the board.

(b) In accordance with a time schedule, and based upon guidelines adopted by the board, the State Geologist shall classify, on the basis solely of geologic factors, and without regard to existing land use and land ownership, the areas identified by the Office of Planning and Research, any area for which classification has been requested by a petition which has been accepted by the board, or any other areas as may be specified by the board, as one of the following:

(1) Areas containing little or no mineral deposits.

(2) Areas containing significant mineral deposits.

(3) Areas containing mineral deposits, the significance of which requires further evaluation.

The State Geologist shall require the petitioner to pay the reasonable costs of classifying an area for which classification has been requested by the petitioner.

(c) The State Geologist shall transmit the information to the board for incorporation into the state policy and for transmittal to lead agencies.

§2762. (a) Within 12 months of receiving the mineral information described in Section 2761, and also within 12 months of the designation of an area of statewide or regional significance within its jurisdiction, every lead agency shall, in accordance with state policy, establish mineral resource management policies to be incorporated in its general plan which will:

(1) Recognize mineral information classified by the State Geologist and transmitted by the board.

(2) Assist in the management of land uses which affect areas of statewide and regional significance.

(3) Emphasize the conservation and development of identified mineral deposits.

(b) Every lead agency shall submit proposed mineral resource management policies to the board for review and comment prior to adoption.

(c) Any subsequent amendment of the mineral resource management policy previously reviewed by the board shall also require review and comment by the board.

(d) If any area is classified by the State Geologist as an area described in paragraph (2) of subdivision (b) of Section 2761, and the lead agency either has designated that area in its general plan as having important minerals to be protected pursuant to subdivision (a), or otherwise has not yet acted pursuant to subdivision (a), then prior to permitting a use which would threaten the potential to extract minerals in that area, the lead agency shall prepare, in conjunction with preparing any environmental document required by Division 13 (commencing with Section 21000), or in any event if no such document is required, a statement specifying its reasons for permitting the proposed use, and shall forward a copy to the State Geologist and the board for review.

If the proposed use is subject to the requirements of Division 13 (commencing with Section 21000), the lead agency shall comply with the public review requirements of that division. Otherwise, the lead agency shall provide public notice of the availability of its statement by all of the following:

(1) Publishing the notice at least one time in a newspaper of general circulation in the area affected by the proposed use.

(2) Directly mailing the notice to owners of property within one-half mile of the parcel or parcels on which the proposed use is located as those owners are shown on the latest equalized assessment role.

The public review period shall not be less than 60 days from the date of the notice and shall include at least one public hearing. The lead agency shall evaluate comments received and shall prepare a written response. The written response shall describe the disposition of the major issues raised. In particular, when the lead agency's position on the proposed use is at variance with recommendations and objections raised in the comments, the written response shall address in detail why specific comments and suggestions were not accepted.

(e) Prior to permitting a use which would threaten the potential to extract minerals in an area classified by the State Geologist as an area described in paragraph (3) of subdivision (b) of Section 2761, the lead agency may cause to be prepared an evaluation of the area in order to ascertain the significance of the mineral deposit located therein. The results of such evaluation shall be transmitted to the State Geologist and the board.

§2763 (a) If an area is designated by the board as an area of regional significance, and the lead agency either has designated that area in its general plan as having important minerals to be protected pursuant to subdivision (a) of Section 2762, or otherwise has not yet

continuation of the surface mining operation is prohibited until a reclamation plan and financial assurances for reclamation are approved by the lead agency.

(e) Any person who, based on the evidence of the record, can substantiate that a lead agency has either (1) failed to act according to due process or has relied on considerations not related to the specific applicable requirements of Sections 2772, 2773, and 2773.1, and the lead agency surface mining ordinance adopted pursuant to subdivision (a) of Section 2774, in reaching a decision to deny approval of a reclamation plan or financial assurances for reclamation, (2) failed to act within a reasonable time of receipt of a completed application, or (3) failed to review and approve reclamation plans or financial assurances as required by subdivisions (c) and (d), may appeal that action or inaction to the board.

(f) The board may decline to hear an appeal if it determines that the appeal raises no substantial issues related to the lead agency's review pursuant to this section.

(g) Appeals that the board does not decline to hear shall be scheduled and heard at a public hearing within 45 days of the filing of the appeal, or any longer period as may be mutually agreed upon by the board and the person filing the appeal. In hearing an appeal, the board shall only determine whether the reclamation plan or the financial assurances substantially meet the applicable requirements of Sections 2772, 2773, 2773.1, and the lead agency surface mining ordinance adopted pursuant to subdivision (a) of Section 2774. A reclamation plan or financial assurances judged to meet these requirements shall be approved. A reclamation plan or financial assurances judged not to meet these requirements shall be returned to the person filing the appeal with a notice of deficiencies, who shall be granted, once only, a period of 30 days, or a longer period mutually agreed upon by the operator and the board, to correct the noted deficiencies and submit the revised reclamation plan or the revised financial assurances to the lead agency for review and approval.

(h) Within 90 days of a surface mining operation becoming idle, as defined in Section 2727.1, the operator shall submit to the lead agency for review and approval, an interim management plan. The review and approval of an interim management plan shall not be considered a project within the meaning of Division 13 (commencing with Section 21000). The approved interim management plan shall be considered an amendment to the surface mining operation's approved reclamation plan, for purposes of this chapter. The interim management plan shall provide measures the operator will implement to maintain the site in compliance with this chapter, including, but not limited to, all permit conditions.

The interim management plan may remain in effect for a period not to exceed five years, at which time the lead agency shall do one of the following:

(1) Renew the interim management plan for another period not to exceed five years, if the lead agency finds that the surface mining operator has complied fully with the interim management plan.

(2) Require the surface mining operator to commence reclamation in accordance with its approved reclamation plan.

In any event, financial assurances required by Section 2773.1 shall remain in effect during the period the surface mining operation is idle. If the surface mining operation is still idle after expiration of its interim management plan, the surface mining operation shall commence reclamation in accordance with its approved reclamation plan.

Within 60 days of the receipt of the interim management plan, or a longer period mutually agreed upon by the lead agency and the operator, the lead agency shall review and approve the plan in accordance with its ordinance adopted pursuant to subdivision (a) of Section 2774, so long as the plan satisfies the above requirements, and so notify the operator in writing. Otherwise, the lead agency shall notify the operator in writing of any deficiencies in the plan. The operator shall have 30 days, or a longer period mutually agreed upon by the operator and the lead agency, to submit a revised plan.

The lead agency shall approve or deny approval of the revised interim management plan within 60 days of receipt. If the lead agency denies approval of the revised interim management plan, the operator may appeal that action to the lead agency's governing body, which shall schedule a public hearing within 45 days of the filing of the appeal, or any longer period mutually agreed upon by the operator and the governing body.

Unless review of an interim management plan is pending before the lead agency, or an appeal is pending before the lead agency's governing body, a surface mining operation which remains idle for over one year after becoming idle as defined in Section 2727.1 without obtaining approval of an interim management plan shall be considered abandoned and the operator shall commence and complete reclamation in accordance with the approved reclamation plan.

(i) Any enforcement action which may be brought against a person for operating without an approved reclamation plan, financial assurance, or interim management plan, shall be held in abeyance pending review pursuant to subdivision (b), (c), (d), or (h) or the resolution of an appeal filed with the board pursuant to subdivision (e), or with a lead agency governing body pursuant to subdivision (h).

§2770.5. Whenever surface mining operations are proposed in the 100-year flood plain for any stream, as shown in Zone A of Flood Insurance Rate Maps issued by the Federal Emergency Management Agency, and within one mile, upstream or downstream, of any state highway bridge, the lead agency receiving the application for the issuance or renewal of a permit to conduct the surface mining operations shall notify the Department of Transportation that the application has been received. The Department of Transportation shall have a period of not more that 45 days to review and comment on the proposed surface mining operations with respect to any potential damage to the state highway bridge from the proposed surface mining operations. The lead agency shall not issue or renew the permit until the Department of Transportation has submitted its comments or until 45 days from the date the application for the permit was submitted, whichever occurs first.

§2771. Whenever a proposed or existing surface mining operation is within the jurisdiction of two or more public agencies, is a permitted use within the agencies, and is not separated by a natural or manmade barrier coinciding with the boundary of the agencies, the evaluation of the proposed or existing operation shall be made by the lead agency in accordance with the procedures adopted by the lead agency pursuant to Section 2774. If a question arises as to which public agency is the lead agency, any affected public agency, or the affected operator, may submit the matter to the board. The board shall notify in writing all affected public agencies and opera-

lands remaining disturbed. For purposes of this paragraph, a "public agency" may include a federal agency.

(b) If the lead agency or the board, following a public hearing, determines that the operator is financially incapable of performing reclamation in accordance with its approved reclamation plan, or has abandoned its surface mining operation without commencing reclamation, either the lead agency or the State Geologist shall do all of the following:

(1) Notify the operator by personal service or certified mail that the lead agency or the State Geologist intends to take appropriate action to forfeit the financial assurances and specify the reasons for so doing.

(2) Allow the operator 60 days to commence or cause the commencement of reclamation in accordance with its approved reclamation plan and require that reclamation be completed within the time limits specified in the approved reclamation plan or some other time period mutually agreed upon by the lead agency or the State Geologist and the operator.

(3) Proceed to take appropriate action to require forfeiture of the financial assurances if the operator does not substantially comply with paragraph (2).

(4) Use the proceeds from the forfeited financial assurances to conduct and complete reclamation in accordance with the approved reclamation plan. In no event shall the financial assurances by used for any other purpose. The operator is responsible for the costs of conducting and completing reclamation in accordance with the approved reclamation plan which are in excess of the proceeds from the forfeited financial assurances.

(c) Financial assurances shall no longer be required of a surface mining operation, and shall be released, upon written notification by the lead agency, which shall be forwarded to the operator and the State Geologist, that reclamation has been completed in accordance with the approved reclamation plan. If a mining operation is sold or ownership is transferred to another person, the existing financial assurances shall remain in force and shall not be released by the lead agency until new financial assurances are secured from the new owner and have been approved by the lead agency in accordance with Section 2770.

(d) The lead agency shall have primary responsibility to seek forfeiture of financial assurances and to reclaim mine sites under subdivision (b). However, in cases where the board is the lead agency pursuant to Section 2774.4, the State Geologist may act to seek forfeiture of financial assurances and reclaim mine sites pursuant to subdivision (b) only if both of the following occur:

(1) The financial incapability of the operator or the abandonment of the mining operation has come to the attention of the State Geologist.

(2) The lead agency has been notified in writing by the State Geologist of the financial incapability of the operator or the abandonment of the mining operation for at least 15 days, and has not taken appropriate measures to seek forfeiture of the financial assurances and reclaim the mine site; and one of the following has occurred:

(A) The lead agency has been notified in writing by the State Geologist that failure to take appropriate measures to seek forfeiture of the financial assurances or to reclaim the mine site shall result in actions being taken against the lead agency under Section 2774.4.

(B) The State Geologist determines that there is a violation which amounts to an imminent and substantial endangerment to the public health, safety, or to the environment.

(C) The lead agency notifies the State Geologist in writing that its good faith attempts to seek forfeiture of the financial assurances have not been successful.

The State Geologist shall comply with subdivision (b) in seeking forfeiture of financial assurances and reclaiming mine sites.

(e) The board may adopt regulations specifying financial assurance mechanisms other than surety bonds, irrevocable letters of credit, and trust funds, which the board determines are reasonably available and adequate to ensure reclamation pursuant to this chapter, but these mechanisms may not include financial tests.

§2774. (a) Every lead agency shall adopt ordinances in accordance with state policy which establish procedures for the review and approval of reclamation plans and financial assurances and the issuance of a permit to conduct surface mining operations, except that any lead agency without an active surface mining operation in its jurisdiction may defer adopting an implementing ordinance until the filing of a permit application. The ordinances shall establish procedures requiring at least one public hearing and shall be periodically reviewed by the lead agency and revised, as necessary, in order to ensure that the ordinances continue to be in accordance with state policy.

(b) The lead agency shall conduct an inspection of a surface mining operation within six months of receipt by the lead agency of the surface mining operation's report submitted pursuant to Section 2207, solely to determine whether the surface mining operation is in compliance with this chapter. In no event shall a lead agency inspect a surface mining operation less than once in any calendar year. The lead agency may cause such an inspection to be conducted by a state-registered geologist, state-registered civil engineer, state-licensed landscape architect, or state-registered forester, who is experienced in land reclamation and who has not been employed by the mining operation in any capacity during the previous 12 months. All inspections shall be conducted using a form developed by the department and approved by the board. The operator shall be solely responsible for the reasonable cost of the inspection. The lead agency shall notify the State Geologist within 30 days of completion of the inspection that the inspection has been conducted. The notice shall contain a statement regarding the surface mine's compliance with this chapter, shall include a copy of the completed inspection form, and shall specify which aspects of the surface mining operations, if any, are inconsistent with this chapter. If the surface mining operation has a review of its reclamation plan, financial assurances, or an interim management plan pending under subdivision (b), (c), (d), or (h) of Section 2770; or an appeal pending before the board or lead agency governing body under subdivision (e) or (h) of Section 2770, the notice shall so indicate. The lead agency shall forward to the operator a copy of the notice, a copy of the completed inspection form, and any supporting documentation, including, without limitation, any inspection report prepared by the geologist, civil engineer, landscape architect, or forester.

(c) Prior to approving a surface mining operation's reclamation plan, financial assurances, including existing financial assurances reviewed by the lead agency pursuant to subdivision (c) of Section 2770, or any amendments, the lead agency shall submit the plan,

the State Geologist, for review of the order. If the operator does not petition for review within the time limits set be this subdivision, the order setting administrative penalties shall not be subject to review by any court or agency.

(b) The legislative body of the lead agency or the board shall notify the operator by personal service or certified mail whether it will review the order setting administrative penalties. In reviewing an order pursuant to this section, the record shall consist of the record before the lead agency or the State Geologist, and any other relevant evidence which, in the judgment of the legislative body or the board, should be considered to effectuate and implement the policies of this chapter.

(c) The legislative body or the board may affirm, modify, or set aside, in whole or in part, by its own order, any order of the lead agency or the State Geologist setting administrative penalties reviewed by the legislative body or the board pursuant to this section.

(d) Any order of the legislative body or the board issued under subdivision (c) shall become effective upon issuance thereof, unless the operator petitions the superior court for review as provided in subdivision (e). Any order shall be served by personal service or by certified mail upon the operator. Payment of any administrative penalty which is specified in an order issued under subdivision (c), shall be made to the lead agency or the State Geologist within 30 days of service of the order; however, the payment shall be held in an interest bearing impound account pending the resolution of a petition for review filed pursuant to subdivision (e).

(e) Any operator aggrieved by an order of the legislative body or the board issued under subdivision (c) may obtain review of the order by filing in the superior court a petition for writ of mandate within 30 days following the issuance of the order. Any operator aggrieved by an order of a lead agency or State Geologist setting administrative penalties under subdivision (c) of Section 2774.1, for which the legislative body or board denies review, may obtain review of the order in the superior court by filing in the court a petition for writ of mandate within 30 days following the denial of review. The provisions of Section 1094.5 of the Code of Civil Procedure shall govern judicial proceedings pursuant to this subdivision, except that in every case the court shall exercise its independent judgment. If the operator does not petition for a writ of mandate within the time limits set by this subdivision, the order of the board or the legislative body shall not be subject to review by any court or agency.

§2774.3. The board shall review lead agency ordinances which establish permits and reclamation procedures to determine whether each ordinance is in accordance with state policy, and shall certify the ordinance as being in accordance with state policy if it adequately meets, or imposes requirements more stringent than the California surface mining and reclamation policies and procedures established by the board pursuant to this chapter.

§2774.4. (a) If the board finds that a lead agency either has (1) approved reclamation plans or financial assurances which are not consistent with this chapter, (2) failed to inspect or cause the inspection of surface mining operations as required by this chapter, (3) failed to seek forfeiture of financial assurances and to carry out reclamation of surface mining operations as required by this chapter, (4) failed to take appropriate enforcement actions as required by this chapter, (5) intentionally misrepresented the results of inspections required under this chapter, or (6) failed to submit information to the department as required by this chapter, the board shall exercise any of the powers of that lead agency under this chapter, except for permitting authority.

(b) If, no sooner than three years after the board has taken action pursuant to subdivision (a), the board finds, after a public hearing, that a lead agency has corrected its deficiencies in implementing and enforcing this chapter, and the rules and regulations adopted pursuant to this chapter, the board shall restore to the lead agency the powers assumed by the board pursuant to subdivision (a).

(c) Before taking any action pursuant to subdivision (a), the board shall first notify the lead agency of the identified deficiencies, and allows the lead agency 45 days to correct the deficiencies to the satisfaction of the board. If the lead agency has not corrected the deficiencies to the satisfaction of the board within the 45-day period, the board shall hold a public hearing within the lead agency's area of jurisdiction, upon a 45-day written notice given to the public in at least one newspaper of general circulation within the city or county, and directly mailed to the lead agency and to all surface mining operators within the lead agency's jurisdiction who have submitted reports as required by Section 2207.

(d) Affected surface mining operators shall have the right, at the public hearing, to present oral and written evidence on the matter being considered. The board may, at the public hearing, place reasonable limits on the right of affected surface mining operators to question and solicit testimony.

(e) If, after conducting the public hearing required by subdivision (c), the board decides to take action pursuant to subdivision (a) the board shall, based on the record of the public hearing, adopt written findings which explain all of the following:

(1) The action to be taken by the board.

(2) Why the board decided to take the action.

(3) Why the action is authorized by, and meets the requirements of, subdivision (a).

In addition, the findings shall address the significant issues raised, or written evidence presented, by affected surface mining operators or the board. The transcript of testimony and exhibits, together with all papers and requests filed in the proceedings, shall constitute the exclusive record for decision by the board.

(f) The lead agency or affected surface mining operator who has presented oral or written evidence at the public hearing before the board pursuant to subdivision (d) may obtain review of the board's action taken pursuant to subdivision (a) by filing in the superior court a petition for writ of mandate within 30 days following the issuance of the board's decision. Section 1094.5 of the Code of Civil Procedure governs judicial proceedings pursuant to this subdivision, except that in every case the court shall exercise its independent judgment. If a petition for a writ of mandate is not filed within the time limits set by this subdivision, the board's action under subdivision (a) shall not be subject to review by any court or agency.

§2774.5. (a) If, upon review of an ordinance, the board finds that it is not in accordance with state policy, the board shall communicate the ordinance's deficiencies in writing to the lead agency. Upon receipt of the written communication, the lead agency shall have 90 days to submit a revised ordinance to the board for certification as being in accordance with state policy. The board shall review the lead agency's revised ordinance for certification within 60 days of its

prietary information as a separate part of the application. Proprietary information shall be made available only to the State Geologist and to persons authorized in writing by the operator and by the owner.

A copy of all reclamation plans, reports, applications, and other documents submitted pursuant to this chapter shall be furnished to the State Geologist by lead agencies on request.

§2779. Whenever one operator succeeds to the interest of another in any incompleted surface mining operation by sale, assignment, transfer, conveyance, exchange, or other means, the successor shall be bound by the provisions of the approved reclamation plan and the provisions of this chapter.

Article 6. Areas of Statewide or Regional Significance

§2790. After receipt of mineral information from the State Geologist pursuant to subdivision (c) of Section 2761, the board may by regulation adopted after a public hearing designate specific geographic areas of the state as areas of statewide or regional significance and specify the boundaries thereof. Such designation shall be included as a part of the state policy and shall indicate the reason for which the particular area designated is of significance to the state or region, the adverse effects that might result from premature development of incompatible land uses, the advantages that might be achieved from extraction of the minerals of the area, and the specific goals and policies to protect against the premature incompatible development of the area.

§2791. The board shall seek the recommendations of concerned federal, state, and local agencies, educational institutions, civic and public interest organizations, and private organizations and individuals in the identification of areas of statewide and national significance.

§2792. Neither the designation of an area of regional or statewide significance nor the adoption of any regulations for such an area shall in any way limit or modify the rights of any person to complete any development that has been authorized pursuant to part 2 (commencing with Section 11000) of Division 4 of the Business and Professions Code, pursuant to the Subdivision Map Act (Division 2 [commencing with Section 66410] of Title 7 of the Government Code), or by a building permit or other authorization to commence development, upon which such person relies and has changed his position to his substantial detriment, and, which permit or authorization was issued prior to the designation of such area pursuant to Section 2790. If a developer has by his actions taken in reliance upon prior regulations obtained vested or other legal rights that in law would have prevented a local public agency from changing such regulations in a way adverse to his interests, nothing in this chapter authorizes any governmental agency to abridge those rights.

§2793. The board may, by regulation adopted after a public hearing, terminate, partially or wholly, the designation of any area of statewide or regional significance on a finding that the direct involvement of the board is no longer required.

Article 7. Fiscal Provisions

§2795. (a) Notwithstanding any other provision of law, the first two million dollars ($2,000,000) of moneys from mining activities on federal lands disbursed by the United States each fiscal year to this state pursuant to Section 35 of the Mineral Lands Leasing Act, as amended (30 U.S.C. Sec. 191), shall be deposited in the Surface Mining and Reclamation Account in the General Fund, which account is hereby created, and may be expended, upon appropriation by the Legislature, for the purposes of this chapter. However, if in any fiscal year, the amount of money disbursed to the state pursuant to Section 35 of the Mineral Lands Leasing Act is less than twenty million dollars ($20,000,000), then only the first one million one hundred thousand dollars ($1,100,000) of that money shall be deposited in the Surface Mining and Reclamation Account for the next fiscal year.

(b) Proposed expenditures from the account shall be included in a separate item in the Budget Bill for each fiscal year for consideration by the Legislature. Each appropriation from the account shall be subject to all of the limitations contained in the Budget Act and to all other fiscal procedures prescribed by law with respect to the expenditure of state funds.

STATE OF CALIFORNIA PETE WILSON Governor

GOVERNOR'S OFFICE OF PLANNING AND RESEARCH
1400 TENTH STREET
SACRAMENTO, CA 95814

Sep 21, 1992

SEP 23

SHERYL SANDERSON
CITY OF PALMDALE
38306 9TH STREET EAST
PALMDALE, CA 93550

Subject: PALMDALE GENERAL PLAN UPDATE
SCH # 87120908

OPR #1

Dear SHERYL SANDERSON:

The State Clearinghouse has submitted the above named draft Environmental Impact Report (EIR) to selected state agencies for review. The review period is now closed and the comments from the responding agency(ies) is(are) enclosed. On the enclosed Notice of Completion form you will note that the Clearinghouse has checked the agencies that have commented. Please review the Notice of Completion to ensure that your comment package is complete. If the comment package is not in order, please notify the State Clearinghouse immediately. Remember to refer to the project's eight-digit State Clearinghouse number so that we may respond promptly.

Please note that Section 21104 of the California Public Resources Code required that:

> "a responsible agency or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency."

Commenting agencies are also required by this section to support their comments with specific documentation. These comments are forwarded for your use in preparing your final EIR. Should you need more information or clarification, we recommend that you contact the commenting agency(ies).

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact Michael Chiriatti at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Christine Kinne

Christine Kinne
Acting Deputy Director, Permit Assistance

Enclosures

cc: Resources Agency

Notice of Completion

State Clearinghouse 400 Tenth Street, Sacramento CA 95814 (916) 445-0613 SCH # [illegible]

Project Title: City of Palmdale General Plan DEIR

Lead Agency: City of Palmdale Contact Person: Laurie [illegible]

Street Address: 38325 9th Street East Phone: (805) 272-9613

City: Palmdale Zip: 93550 County: Los Angeles

Project Location

County: Los Angeles City/Nearest Community: Palmdale

Cross Streets: Total Acres: 111,527

Assessor's Parcel No. Section: Twp. Range: Base:

Within 2 Miles: State Hwy #: 14, 138 Waterways: California Aqueduct, natural drainages

Airports: USAF Plant 42 Railways: Southern Pac. Schools: numerous

Document Type

CEQA: ☐ NOP ☐ Supplement/Subsequent ☐ EIR (Prior SCH No.) ☐ Early Cons ☐ Other ☐ Neg Dec ☒ Draft EIR

NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI

Other: ☐ Joint Document ☐ Final Document ☐ Other

Local Action Type

☒ General Plan Update ☐ Specific Plan ☐ Rezone ☐ Annexation
☐ General Plan Amendment ☐ Master Plan ☐ Prezone ☐ Redevelopment
☐ General Plan Element ☐ Planned Unit Development ☐ Use Permit ☐ Coastal Permit
☐ Community Plan ☐ Site Plan ☐ Land Division (Subdivision, Parcel Map, Tract Map, etc.) ☐ Other

Development Type

☐ Residential: Units Acres
☐ Office: Sq.ft Acres Employees
☐ Commercial: Sq.ft Acres Employees
☐ Industrial: Sq.ft Acres Employees
☐ Educational
☐ Recreational

☐ Water Facilities: Type MGD
☐ Transportation: Type
☐ Mining: Mineral
☐ Power: Type Watts
☐ Waste Treatment: Type
☐ Hazardous Waste: Type
☒ Other: GENERAL PLAN UPDATE

Project Issues Discussed in Document

☒ Aesthetic/Visual ☒ Flood Plain/Flooding ☒ Schools/Universities ☒ Water Quality
☒ Agricultural Land ☒ Forest Land/Fire Hazard ☒ Septic Systems ☒ Water Supply/Groundwater
☒ Air Quality ☒ Geologic/Seismic ☒ Sewer Capacity ☒ Wetland/Riparian
☒ Archaeological/Historical ☒ Minerals ☒ Soil Erosion/Compaction/Grading ☒ Wildlife
☒ Coastal Zone ☒ Noise ☒ Solid Waste ☒ Growth Inducing
☒ Drainage/Absorption ☒ Population/Housing Balance ☒ Toxic/Hazardous ☒ Landuse
☒ Economic/Jobs ☒ Public Services/Facilities ☒ Traffic/Circulation ☒ Cumulative Effects
☒ Fiscal ☒ Recreation/Parks ☒ Vegetation ☒ Other

RECEIVED JUN 5 1992 STATE CLEARINGHOUSE

Present Land Use/Zoning/General Plan Use Various

Project Description The General Plan for the City of Palmdale covers 111 527 acres, consisting of the City and its sphere of influence, located in the Antelope Valley. Elements of the General Plan include: Land Use, Noise, Housing, Circulation, Public Services, Environmental Resources, and Safety.

CLEARINGHOUSE CONTACT: Tom Loftus
(916) 445-0613

STATE REVIEW BEGAN: 8-6-92
DEPT REV TO AGENCY: 9-14
AGENCY REV TO SCH: 9-18
SCH COMPLIANCE: 9-21

PLEASE NOTE SCH NUMBER ON ALL COMMENTS

PLEASE FORWARD LATE COMMENTS DIRECTLY TO THE LEAD AGENCY ONLY

AQMD/APCD: 33 (Resources: 8/8)

("S" = sent by lead / "**" = sent by SCH)

CHT SHT
● Resources
[redacted]
● Conservation
● Fish & Game 5
[redacted]
● Aeronautics
● Caltrans # 7
[redacted]
● Health

CHT SHT
State/Consumer Svcs
[redacted]
● ARB
[redacted]
● Reg. WQCB # 9
[redacted]
● PUC
● State Lands Comm
[redacted]

RECEIVED SEP 21 1992 STATE CLEARINGHOUSE

Notice of Completion

State Clearinghouse 1400 Tenth Street Sacramento CA 95814 (916) 445-0613

SCH # 92120909

Project Title: City of Palmdale General Plan DEIR

Lead Agency: City of Palmdale — Contact Person: Laurie Lile

Street Address: 38306 9th Street East — Phone: (805) 272-9613

City: Palmdale — Zip: 93550 — County: Los Angeles

Project Location

County: Los Angeles — City/Nearest Community: Palmdale

Cross Streets: — Total Acres: 111.527

Assessor's Parcel No. — Section: — Twp.: — Range: — Base:

Within 2 Miles: State Hwy #: 14, 138 — Waterways: California Aqueduct, natural drainages

Airports: USAF Plant 42 — Railways: Southern Pac. — Schools: numerous

Document Type

CEQA: ☐ NOP ☐ Early Cons ☐ Neg Dec ☒ Draft EIR ☐ Supplemental/Subsequent ☐ EIR (Prior SCH No.) ☐ Other

NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI

Other: ☐ Joint Document ☐ Final Document ☐ Other

Local Action Type

☒ General Plan Update ☐ General Plan Amendment ☐ General Plan Element ☐ Community Plan ☐ Specific Plan ☐ Master Plan ☐ Planned Unit Development ☐ Site Plan ☐ Rezone ☐ Prezone ☐ Use Permit ☐ Land Division (Subdivision, Parcel Map, Tract Map, etc.) ☐ Annexation ☐ Redevelopment ☐ Coastal Permit ☐ Other

Development Type

☐ Residential: Units ____ Acres ____
☐ Office: Sq.ft. ____ Acres ____ Employees ____
☐ Commercial: Sq.ft. ____ Acres ____ Employees ____
☐ Industrial: Sq.ft. ____ Acres ____ Employees ____
☐ Educational
☐ Recreational

☐ Water Facilities: Type ____ MGD ____
☐ Transportation: Type
☐ Mining: Mineral
☐ Power: Type ____ Watts ____
☐ Waste Treatment: Type
☐ Hazardous Waste: Type
☒ Other: GENERAL PLAN UPDATE

Project Issues Discussed in Document

☒ Aesthetic/Visual ☐ Agricultural Land ☒ Air Quality ☒ Archeological/Historical ☐ Coastal Zone ☒ Drainage/Absorption ☒ Economic/Jobs ☐ Fiscal
☒ Flood Plain/Flooding ☒ Forest Land/Fire Hazard ☒ Geologic/Seismic ☒ Minerals ☒ Noise ☒ Population/Housing Balance ☒ Public Services/Facilities ☒ Recreation/Parks
☒ Schools/Universities ☐ Septic Systems ☒ Sewer Capacity ☒ Soil Erosion/Compaction/Grading ☒ Solid Waste ☒ Toxic/Hazardous ☒ Traffic/Circulation ☒ Vegetation
☒ Water Quality ☒ Water Supply/Groundwater ☒ Wetland/Riparian ☒ Wildlife ☒ Growth Inducing ☒ Landuse ☒ Cumulative Effects ☐ Other

Present Land Use/Zoning/General Plan Use Various

Project Description The General Plan for the City of Palmdale covers 111.527 acres, consisting of the City and its sphere of influence, located in the Antelope Valley. Elements of the General Plan include: Land Use, Noise, Housing, Circulation, Public Services, Environmental Resources, and Safety.

CLEARINGHOUSE CONTACT: Tom Loftus (916) 445-0613

STATE REVIEW BEGAN: 8.6.92
DEPT REV TO AGENCY: 9.14
AGENCY REV TO SCH: 9.18
SCH COMPLIANCE: 9.21

PLEASE NOTE SCH NUMBER ON ALL COMMENTS

PLEASE FORWARD LATE COMMENTS DIRECTLY TO THE LEAD AGENCY ONLY

AQMD/APCD: 33 (Resources: 8, 8)

(*S* = sent by lead / *** = sent by SCH)

CNT	SNT		CNT	SNT	
		Resources			State/Consumer Svcs
		[redacted]			[redacted]
		Conservation			ARB
		Fish & Game			[redacted]
		[redacted] DWR			Reg. WQCB
		Aeronautics			[redacted]
		Caltrans			[redacted]
		DWR			[redacted]
		[redacted]			State
		Health			[redacted]

RECEIVED SEP 9 1992 STATE CLEARINGHOUSE

SWP O&M

R. Ja

SWP O&M DEIR

043

NG

NTC

XC NOC. J HORN SWP F

CC: XC: XC:

State of California | The Resources Agency

M E M O R A N D U M

To : Director
State Clearinghouse
Office of Planning and Research
1400 Tenth Street
Sacramento, CA; 95814

Date : 9/18/92

From : Office of the Secretary

9/21

Subject: Agency Comments

Attached are individual comments of departments, boards, or commissions within The Resources Agency requested by your State Clearinghouse Notice of Completion and Environmental Document Form on the subject item(s). Agencies responding to your request are listed below.

Attachment(s)

Resources Date:	SCH#	Department	Comment
8 08 92	87120908	CONS	NO RESPONSE
		DWR	COMMENT
		F&G	NO RESPONSE
		S LANDS	NO RESPONSE

City of Lancaster

44933 North Fern Avenue
Lancaster, California 93534-2461
805-723-6000

RECEIVED
SEP 24 1992

George Lee Root
Mayor

Rev Henry W Hearns
Vice Mayor

Frank C Roberts
Councilman

Arnie Rodio
Councilman

George Runner
Councilman

James C Gilley
City Manager

September 22, 1992

Laurie Lile
City of Palmdale
Planning Department
38306 9th Street East
Palmdale, California 93550

Subject: City of Palmdale General Plan Draft Environmental Impact Report

Dear Laurie:

Thank you for the opportunity to review the Draft EIR for the proposed General Plan. Attached are comments from the Traffic Division of the Department of Public Works regarding transportation and circulation. Please contact Tim Bochum at (805) 723-6048 if you have any questions regarding the attached comments.

Sincerely,

Susan J. Barnett

Susan J. Barnett
Environmental Coordinator
Department of Community Development

SB
Attachment

cc: Timothy Bochum

MEMORANDUM
City of Lancaster, California

Date: September 22, 1992

To: Susan Barnett
Environmental Coordinator

From: Timothy Scott Bochum
Assistant Traffic Engineer

Subject: **CITY OF PALMDALE, GENERAL PLAN E.I.R. COMMENTS**

The following concerns should be addressed by the City of Palmdale prior to adoption of this document.

TRANSPORTATION AND CIRCULATION

The following roadway classifications do not conform to the City of Lancaster's Master Plan of Highways.

ROADWAY	SEGMENT	CLASSIFICATION (PALMDALE)	CLASSIFICATION (LANCASTER)
Avenue L	West of 90th St W	Major/Minor	Regional (120' R/W)
90th St W	North of Avenue M	Major	Regional
50th St W	North of Avenue M	Major	Regional
20th St E	North of Avenue L	Major	Regional
80th St W	North of Avenue M	Minor	Major
70th St W	North of Avenue M	Minor	Major
Avenue M	30th St W to Challenger Way	Regional	Major

LAN #1

These roadways should be verified for compliance with the current C.O.P. traffic model and SCAG sketch plan performed in 1990. At a minimum, roadway segments contained under our jurisdiction should conform to our existing plan.

TRANSIT/DIAL-A-RIDE/COMMUTER SERVICES

All references should be made pertaining to the Antelope Valley Transit Authority as providing these services. DAVE'S Transportation Company is the current contractor and reference to them should be removed from this document.

LAN #2

TB:nkf

23920 Valencia Blvd
Suite 300
City of Santa Clarita
California 91355

Phone
(805) 259-2489
Fax
(805) 259-8125

RECEIVED
SEP 25 1992

City of Santa Clarita

Jill Klajic
Mayor

Jan Heidt
Mayor Pro-Tem

Carl Boyer
Councilmember

Jo Anne Darcy
Councilmember

George Pederson
Councilmember

September 23, 1992

Laurie Lile, Associate Planner
City of Palmdale
Planning Department
38306 9th Street East
Palmdale, CA 93550

RE: Comments on City of Palmdale Draft General Plan and Draft Environmental Impact Report (DEIR)

Dear Ms. Lile:

Thank you for the opportunity to review the above-referenced documents for their potential impacts to the City of Santa Clarita. Our primary concern in reviewing these documents is the impact of future growth in the Palmdale area and surrounding environs on regional traffic corridors (namely, the Antelope Valley Freeway, Sierra Highway, and Bouquet Canyon Road.) We believe that these traffic impacts will be significant beyond what has been evaluated in the DEIR and addressed in the draft General Plan.

We have identified the following specific concerns and questions:

1. <u>Traffic/Land Use.</u>

   a. Residential densities are given as ranges. Does the traffic model assume the maximum residential density? If not, what densities are the traffic model figures based on? Does the cummulative analysis factor in all Antelope Valley (City of Lancaster and Los Angeles County) long term plans? SC #1

   b. The Draft General Plan states that 34% of Palmdale residents commute (a majority of which are employed within the San Fernando Valley and Los Angeles Basin). However, the draft General Plan does not identify any of the transportation corridors between the Antelope Valley and the Santa Clarita Valley for improvements. In particular, the traffic model assumes that Highway 14 has four lanes in each direction (page C-41), although the majority of the freeway currently has only two lanes in each direction. We are not aware of any plans of Cal-Trans to make such improvements any time in the near future. SC #2

c. As we have stated in the past, we feel that the Ritter Ranch and City Ranch projects, in particular, will affect local and regional transportation systems. Bouquet Canyon Road is likely to carry a substantial number of vehicle trips during both morning and evening peak hours, however, it is only briefly addressed in the Draft General Plan and is not shown on the Circulation Plan (Exhibit C-1). SC #3

d. The City of Santa Clarita supports the development of alternative forms of transportation to the single passenger-vehicle. However, we do not feel that an increase in commuter transportation services alone will alleviate worsening congestion problems. The draft General Plan indicates that incentive programs (i.e. establishment of Foreign Trade and Enterprise Zones) will be developed to promote industrial development (thereby improving the jobs/housing imbalance). Such programs appear to be long range goals and do not address current problems. The draft General Plan calls for 1,008 additional new housing units to be constructed between 1992 and 1994 and an additional 10,000 units between 1994 and 1999 (page H-3). Such development will have a significant and adverse impact on regional transportation corridors in the near future. SC #4

2. Air Quality. Evaluation for consistency with SCAG and SCAQMD programs, such as the Regional Mobility Plan, should be included in the EIR for mitigation of potential air quality impacts. SC #5

3. Non-regional issues. Based on our review of the draft EIR, we do not feel that all impacts have been adequately addressed and can be mitigated to a less than significant level. We have identified those that may have a significant regional affect above. However, we have not addressed issues which we feel have a less than regional impact. If you would like for us to elaborate on these issues, we will be happy to do so.

Again, thank you for your consideration of our comments. If there are any questions regarding the City's concerns, please do not hesitate to call me at (805) 255-4330.

Sincerely,

Lynn M. Harris

Lynn M. Harris
Deputy City Manager
Community Development

LMH:KMK:522

cc: Dave Vannatta, Planning Deputy, County of Los Angeles, 5th District
Jim Hartl, Director, Los Angeles County Regional Planning

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

818 West Seventh Street, 12th Floor • Los Angeles, California 90017-3435 (213) 236-1800 • FAX (213) 236-1825

EXECUTIVE COMMITTEE

President
Rep. Cities of San Bernardino County
Jean Longville, Mayor
Rialto

First Vice President
Rep. Imperial County
Lee Seubert, Supervisor

Second Vice President
Rep. Cities of Riverside County
Judy Nieburger, Council Member
Moreno Valley

Past President
Rep. Ventura County
John Flynn, Supervisor

Los Angeles County
Mike Antonovich, Supervisor
Deane Dana, Supervisor

Orange County
Harriett Wieder, Supervisor

Riverside County
Norton Younglove, Supervisor

San Bernardino County
Jon Mikels, Supervisor

Cities of Los Angeles County
Robert Bartlett, Mayor
Monrovia

Cities of Imperial County
Stella Mendoza, Council Member
Brawley

Cities of Orange County
Irwin Fried, Mayor
Yorba Linda

Cities of Ventura County
John Melton, Council Member
Santa Paula

City of Los Angeles
Tom Bradley, Mayor
Mark Ridley-Thomas
Council Member
Hal Bernson, Council Member

City of Long Beach
Clarence Smith, Council Member

POLICY COMMITTEE CHAIRS

Hal Cooper, Mayor Pro Tem
Glendale, Chair Transportation and Communications

Diane Ring, Mayor Pro Tem
Lakewood, Chair Energy and Environment

Scott Garrett, Council Member
Lomita, Chair Community, Economic and Human Development

AT LARGE MEMBERS

Robert Lewis, Mayor
Thousand Oaks

Fred Aguiar, Mayor
Chino

Richard Kelly, Mayor
Palm Desert

ALTERNATES

Imperial County • Sam Sharp, Supervisor • Los Angeles County • Ed Edelman, Supervisor and Kenneth Hahn, Supervisor • Orange County • Gaddi Vasquez, Supervisor • Riverside County • Melba Dunlap, Supervisor • San Bernardino County • Larry Walker, Supervisor • Ventura County • Vicky Howard, Supervisor • Cities of Imperial County • Victor Sanchez, Jr., Mayor Pro Tem, Westmorland • Cities of Los Angeles County • Abba Land, Councilmember, West Hollywood • Cities of Orange County • Rosalyn Plummer, Council Member, Newport Beach • Cities of Riverside County • (Vacant) • Cities of San Bernardino County • Elmer Digneo, Mayor Pro Tem, Loma Linda • Cities of Ventura County • Judy Mikels, Councilmember Simi Valley • City of Los Angeles • Richard Alatorre, Councilmember • Rita Walters, Councilmember • Michael Woo, Councilmember • Long Beach 2nd position • Douglas Drummond, Councilmember • Al Larco • George Nakano, Councilmember Torrance • Candace Haggard, Councilmember San Clemente • Judy Wright,

September 21, 1992

Ms. Laurie Lile
City of Palmdale Planning Department
38306 9th Street East
Palmdale, CA 93550

Comments on the Draft Environmental Impact Report for the City of Palmdale General Plan. SCAG No. I9200069

Dear Ms. Lile:

Thank you for the opportunity to review and comment on the Draft General Plan for the City of Palmdale. As areawide clearinghouse for regionally significant projects, SCAG assists cities, counties and other agencies to review projects and plans for consistency with the Regional Housing Needs Assessment (RHNA), the Regional Mobility Plan (RMP), Growth Management Plan (GMP), and conformity with the Air Quality Management Plan (AQMP), all of which are included in the State Implementation Plan (SIP).

SCAG has a profound interest in the type and trend of development that is occurring in the North Los Angeles County subregion. The City is on the edge of a development boom with a potential to be an example to the region in terms of growth patterns. With approximately 80 percent of the planning area vacant, development of the City could completely change the character of the subregion. The development and absorption of these projects will influence growth trends by generating new housing and jobs. In order to ensure that new development meets regional plans, the City of Palmdale must address balanced growth (in terms of jobs/housing), air quality, adequate infrastructure, public services, and open space.

The attached comments are meant to provide guidance for addressing the proposed General Plan within the context of our regional goals and plans, which are based in part upon state and federal mandates. While the City is not required to undertake the specific actions recommended by SCAG or other agencies through the Inter-Governmental Review Process, there are requirements in state and federal laws for consistency with regional goals and plans.

SCAG appreciates the opportunity to comment on the Draft EIR for the City of Palmdale General Plan. SCAG's policy level review will be initiated with the presentation of the proposed project to SCAG's Local Assistance and Compliance Committee (LACC) on October 1, 1992. If you have any questions about the attached comments, please contact Manuel Gurrola at (213) 236-1907. He will be contacting you to invite you to participate in the October 1st LACC meeting.

Sincerely,

Arnold I. Sherwood

ARNOLD I. SHERWOOD, Ph.D.
Director
Forecasting, Analysis and Monitoring

Enclosure: Summary of Transportation Control Measures

scag

SCAG COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE CITY OF PALMDALE DRAFT GENERAL PLAN

DESCRIPTION

The proposed Palmdale General Plan ("Plan") is a comprehensive update for the City to become a self-sufficient, mixed-use community. Buildout will eventually convert 88,630 acres of vacant and open space lands into various types of suburban development. The Plan identifies the types of development that will be allowed, the spatial relationships among land uses, and the general pattern of future development.

The Plan study area consists of the City of Palmdale (approximately 78 square miles) and an existing Sphere of Influence (approximately 96 square miles). The Plan study area encompasses a total of 174 square miles.

LOCATION

The City of Palmdale is located in the central portion of the Antelope Valley in northern Los Angeles County, approximately 60 miles north of downtown Los Angeles. Immediately north of Palmdale is the City of Lancaster; the San Fernando Valley lies 35 miles to the southwest along the Antelope Valley Freeway (SR-14).

GROWTH MANAGEMENT

There are a number of regionally significant master planned communities within the City of Palmdale that are currently in various phases of project development and/or processing. The projects include Ritter Ranch, City Ranch, Santa Fe Hills, and Rancho Vista. The pattern of urban development and land use proposed in the Plan will increase infrastructure construction and require new facilities or expansion of existing ones as indicated in the Draft EIR for the Plan. Additionally, the City has been aggressively annexing undeveloped land adjacent to the City. This pattern of development will be extremely extended, both geographically and temporally, which will cause significant problems with local, as well as, regional infrastructure.

Jobs/Housing Balance

The City is located in the North Los Angeles Subregion, a housing rich subregion. At buildout of the proposed Plan, the City anticipates 139,205 housing units and 594,178 jobs. This results in a 4.26 jobs/housing balance ratio. This will move the City from its current status of a housing rich area to that of a jobs rich area. SCAG encourages the City to move toward this direction in a phased and consistent manner in terms of jobs producing development and housing development. SCAG #1

Wastewater Treatment

At buildout, the Draft EIR estimates that 113 mgd of wastewater is expected to be generated by the Plan. Currently, the Los Angeles County Sanitation District No. 20 (LACSD 20) treats 8.0 mgd and is undergoing expansion to increase capacity to 15 mgd. However, even if this expansion to 15 mgd is accomplished, the County Treatment Plant will not be able to effectively process, treat, and dispose of local effluent. SCAG #2

It is essential that the Plan be phased in accordance with the expansion of the County Treatment Plant and GMP in terms of population and that the conformity requirements of Chapter Three in Appendix IV-G of the AQMP be met. Unless a finding of conformity can be made, it may not be possible to serve the City with sewage treatment facilities that are necessary to support the type of development the Plan proposes.

Water Supply

Water supply is also an issue of concern in terms of growth management. Most importantly, the Antelope Valley-East Kern Water Agency has documented that there will not be sufficient water available for ultimate buildout of the Plans in Palmdale and Lancaster. Additionally, the Draft EIR states that significant water systems improvements will be required to provide an adequate water supply to the dispersed developments occurring in the City. Required mitigation measures will reduce the Plan's impacts; however, significant individual and cumulative impacts to the regional water supply remain. SCAG #3

Recommendations

From a regional perspective, the City needs to address the impact approval of the Plan will have on local, subregional and regional plans to balance growth with the provision of transportation facilities and other necessary public infrastructure. The California Environmental Quality Act requires that EIRs discuss any inconsistencies between the proposed project and the applicable regional plans as well as local general plans (Section 15125 [b]). SCAG #4

SCAG

Mention should be made of any initiative by the City of Palmdale to enter into arrangements with the City of Lancaster to address growth management planning. This is one of the key programs of the Growth Management Plan and should be considered as a possible mitigation measure for the traffic and circulation impacts of the Draft General Plan. SCAG #5

The City of Palmdale should attempt, in so far as possible, to ensure that the following objectives are satisfied:

- The Plan must adequately address and resolve issues related to the provision of wastewater treatment. These facilities are sized and phased in accordance with the GMP and AQMP. This may result in the need to re-examine the Plan alternatives and facility build-out schedules. SCAG #6

- The Plan must adequately address and resolve the issue of water supply and service. This will result in the need to examine available water supply and the resulting impact from this Plan and the proposed City of Palmdale General Plan. SCAG #7

REGIONAL MOBILITY

The Antelope Valley Freeway serves as major north-south linkage between the Antelope Valley and the San Fernando Valley and the Los Angeles basin. The freeway serves both intra-regional, as well as inter-regional travel and commerce. It is important to note that no alternate major freeway corridors parallel the Antelope Valley Freeway (although, Sierra Highway does extend from the City to the I-5/Antelope Valley Freeway interchange in the south). Thus, the freeway is pivotal to the mobility requirements associated with the Antelope Valley.

The Antelope Valley Freeway in the City of Palmdale currently operates at LOS F during the evening peak hour in the northbound direction. This poor level of service is due to the high volume of traffic entering the region during the PM peak hour. Level of Service F indicates significant levels of congestion for motorists and greatly reduced speeds. Similar congestion is experienced along the same segment, in the southbound direction, during the morning peak hour. The Antelope Valley Freeway operates at LOS C in the plan study area. Similar congestion is experienced on Sierra Highway in the City which also operates at LOS F during the same time frames. Sierra Highway operates at LOS C in the plan study area.

These results indicate that future development as proposed in the Antelope Valley would have a significant adverse impact on the Antelope Valley Freeway and that it will be difficult to maintain acceptable peak-hour service levels even with the proposed expansion of the Antelope Valley to four-lanes in each direction.

Recommendations

The Final EIR needs to closely examine the cumulative impacts of increased VMT to traffic on the Antelope Valley Freeway from regional growth based on the Cities of Palmdale and Lancaster Palmdale proposed General Plans. SCAG #8

AIR QUALITY MANAGEMENT

The City of Palmdale is part of the Southeast Desert Basin. However, according to the SCAQMD, the AQMP applies to any basin within its jurisdiction that is not meeting federal air pollution standards. Therefore, the policies and procedures in the 1991 AQMP apply to the Antelope Valley.

SCAG's review of the project indicates the Plan will generate significant adverse air quality impacts that have not been properly addressed in the Draft EIR. The expected growth based on the cumulative buildout projections is expected to be 336,354 housing units with a population of 974,510 persons. This growth assumption was not projected in the GMP and in the AQMP. The DEIR does not properly address this issue and the resulting adverse air quality impacts at the regional level. SCAG #9

Carbon Monoxide Modeling

The Draft EIR indicates that background levels used for the analysis are from 1987, the SCAQMD can provide current data for a more accurate air quality setting. SCAG #10

The EMFAC7D analysis indicates a Home-Work trip length of 8.8 miles and a Home-Other trip length of 5.2 miles. These trip lengths are low compared to the region average projected in the RMP. The final EIR needs to provide additional information and support for this assumption. Until such time, it is difficult to assess the validity of the modeling and resulting emission projections. SCAG #11

SCAG in consultation with the transportation agencies, the EPA, the FHWA, the SCAQMD, and other interested parties, established guidelines for CO analysis. The City should incorporate the "Carbon Monoxide Protocol" when adopted in Winter 1992 for subsequent analysis of transportation projects in the City. SCAG #12

Vehicle Miles Traveled (VMT)

Increased Vehicle Miles Traveled (VMT) and congestion result in higher emissions, putting additional strain on energy resources. Recently the SCAQMD incorporated SCAG's recommendation to reduce VMT to provide air-quality benefits equivalent to those obtainable by a balance of jobs and housing within subregions. The VMT goal is to be reached by locally chosen means (including jobs/housing balance); this gives the City of Palmdale more flexibility in meeting the clean-air requirements through land-use strategies. The Plan does not project VMT at buildout. This issue needs to be addressed in the final EIR. SCAG #13

Transportation Control Measures

The Draft EIR for the Plan states that the Transportation Control Measures (TCMs) from the AQMP will be used as mitigation measures. All TCMs are applicable to City of Palmdale, in accordance with the Federal Clean Air Act, to reduce VMT and vehicle trips. However in a recent survey done by SCAG through the County Transportation Commissions, indicated that of the 17 control measures, the City is currently implementing TCM 2a) Rideshare Incentive and TCM 2f) HOV Facilities, the City will implement by the end of 1992 TCM 2e) Auto Use Restriction and is considering implementing TCM 4) Traffic Flow Improvements. SCAG encourages the City to monitor the "expeditious implementation" of the TCMs and to include the TCMs in a general plan Air Quality Element and/or action plan. SCAG #14

Air Quality Element

One of the advantages of updating a local general plan in a manner which makes it consistent with the AQMP and other regional plans is that it triggers a change in SCAG's IGR procedures. The process for determining general plan conformity with the AQMP/SIP is described in Chapter IV of SCAG's Guidelines for the Development of Local Air Quality Elements published in March, 1990. SCAG encourages that the City of Palmdale to develop an Air Quality Element utilizing the following steps: SCAG #15

1) Adopt appropriate General Plan provisions that includes objectives consistent with the AQMP and Air Quality Element Guidelines.

2) Make a commitment to implement the appropriate local government measures from the AQMP identified in the Guidelines and AQMP.

3) Adopt any necessary changes to the General Plan Update to make the plan internally consistent with the Air Quality Action Plan.

4) Approve a schedule and assign staff responsibilities for implementing the adopted local air quality objectives consistent with the AQMP and the Guidelines.

5) Determine that the City has been making reasonable further progress toward implementing the local government measures in the AQMP as measured by the annual Reasonable Further Progress Reports.

These steps are necessary for self certification and once completed, the City of Lancaster can notify SCAG and obtain a delegation of responsibility for reviewing regionally significant general development projects on its own behalf.

Conformity with the State Implementation Plan (SIP)

A project is found to conform with the SIP when it has satisfied the following three criteria:

1. It improves the subregion's jobs/housing balance performance ratio.

2. It reduces vehicle trips and vehicle miles traveled to the maximum extent feasible by implementing TDM strategies.

3. Its environmental document includes an air quality analysis which demonstrates that the project will not have a significant negative impact on air quality in the long term.

Findings

The proposed Plan will have a positive impact on jobs/housing balance in the North Los Angeles subregion.

SCAG does not concur with the Draft EIR that it is able to mitigate the adverse effects of increased transportation demand to a level of insignificance. There is no Transportation Demand Management/Trip Reduction Ordinance included in the proposed general plan. SCAG #16

SCAG finds the proposed Plan to not conform with the SIP at this time. The Plan does reduce vehicle trips and vehicle miles traveled to the extent feasible, however it does not mitigate the effects on air quality to a less than significant level. SCAG #17

The proposed Plan significantly contributes to violations of CO, NOx and ROG standards and, therefore, would not conform with the AQMP under the 1990 Federal Clean Air Act Amendments. SCAG #18

Recommendations

Prior to considering approval of the Plan, the following issues should be addressed by the City of Palmdale:

- The final EIR CO analysis should use the latest California Air Resources Board (ARB) emissions factor model, EMFAC7-E. Negative impacts from dust emissions due to the proposed construction should be evaluated in the final EIR. The final EIR should get more current air quality data from the SCAQMD. The final EIR should clarify how the project would adequately decrease the level of service or maintain an acceptable LOS on surrounding streets. The Draft EIR does not discuss or quantify emission benefits or reduction of emissions as a result of this project. The cumulative impacts are not properly addressed and mitigated in the Draft EIR. The final EIR should consider significant attention to regional air quality as result from increased traffic. SCAG #19

- The purpose of the Plan is for the City to become a self-sufficient mixed-use community which would provide housing and employment opportunities, and help redress the jobs/housing balance in the subregion. SCAG recommends that the City of Palmdale establish an appropriate phasing schedule in order to ensure a consistent sizing and service phasing with regional infrastructure and to ensure compliance with the AQMP/SIP and the 1990 Federal Clean Air Act. SCAG #20

- The Draft EIR fails to address the median costs of homes within the City in relation to the incomes of the persons who will be employed in the City of Palmdale and the effect of this relationship upon commute patterns and air quality. SCAG #21

- Lack of wastewater treatment capacity to serve the Plan. The Draft EIR fails to adequately address the wastewater conformity requirements of the AQMP/SIP. Expansion or construction of wastewater treatment facilities to serve this Plan could be jeopardized by a lack of consistency with the GMP. SCAG #22

- Unresolved circulation, traffic and transportation issues. Although a TDM ordinance will be prepared upon adoption of the CMP, the City must incorporate the Transportation Control Measures (TCMs) listed in the AQMP to alleviate the burden that the Plan will impose on the circulation and transportation systems within the community and the region in accordance with the FCAA. TCMs will substantially reduce passenger vehicle trips and miles traveled per trip, assist in achieving an average of 1.5 or more persons per passenger vehicle by 1999 (as required in the AQMP), and not allow a net increase in vehicle emissions after 1997 in accordance with the CCAA. SCAG #23

SUMMARY
1989 AIR QUALITY MANAGEMENT PLAN (AQMP) APPENDIX IV-G,
WITH DUE DATES FROM THE 1991 AQMP, APPENDIX IV-E

LOCAL GOVERNMENT CONTROL MEASURES TO BE IMPLEMENTED BY DECEMBER 31, 1992

CONTROL MEASURE/TITLE	IMPLEMENTATION ACTIVITY IN 1989 AQMP WITH (SPECIFIED AMENDMENTS IN 1991 AQMP)	DUE DATE IN 1991 AQMP
1.a. Alternative Work Weeks and Flextime	Implement 10% work trip reduction program for local government employees.	December 31, 1992
	Adopt alternative work schedule ordinance to require 10% work trip reduction as a condition of business license or permit for new development.	December 31, 1992
	Local government monitor progress, report to SCAG annually.	Annually
1.b. Telecommunications	Adopt program for telecommunications/work at home strategies to reduce local government employees work trips by 20%.	December 31, 1992
	Adopt telecommunications Trip Reduction Ordinance (TRO) reducing employee work trips by 20%.	December 31, 1992
2 a. Employer Rideshare & Transit Incentives	Adopt ordinance to require trip-reduction plans for facilities with tenants employing more than 100 employees	December 31, 1992
	Adopt ordinances to require facilities employing 25-99 employees to disseminate information on trip reduction	July 1, 1991
	Evaluate effectiveness of reducing employee level threshold to 25+, if necessary, by July 1, 1993, expand Reg. XV to cover business with 25+ employees	July 1, 1992
2.b Parking Management ("as appropriate," in next column intended to indicate local government to make choices from a menu of programs. See 1989 AQMP for complete list.)	Local government adopt Air Elements to General Plans and/or adopt appropriate ordinance which will apply as appropriate to the following programs: Increase daytime parking fee Establish surcharge on parking for single occupant vehicles Eliminate peak-period onstreet parking Eliminate 100% employer subsidized parking	December 31, 1992

SUMMARY
1989 AIR QUALITY MANAGEMENT PLAN (AQMP) APPENDIX IV-G
WITH DUE DATES FROM THE 1991 AQMP, APPENDIX IV-E

LOCAL GOVERNMENT CONTROL MEASURES TO BE IMPLEMENTED BY DECEMBER 31, 1992

CONTROL MEASURE/TITLE	IMPLEMENTATION ACTIVITY IN 1989 AQMP WITH (SPECIFIED AMENDMENT IN 1991 AQMP)	DUE DATE IN 1991 AQMP
2.b. Parking Management (con't)	Employer-sponsored preferential parking for ridesharers Residential parking zones permit programs	
2.d. Merchant Transportation Incentives	Adopt non-work trip reduction ordinances requiring merchants (large retail establishments) to offer customer mode-shift travel incentives	December 31, 1992
2.e. Auto Use Restrictions	Adopt air quality elements into General Plans. Provide enhanced transit performance and availability in auto-restricted zones.	December 31, 1992 No date
2.g. Transit Improvements	Those actions, facilities, programs, which will be constructed or completed under existing or present funding capabilities are in the "constrained program" (Tier I).	Biennial, RTIP, 1991-1992
3.a. Truck Dispatching, Rescheduling, & Rerouting	Adopt local Air Quality Elements in General Plans, including improved truck routing, delivery scheduling and shipping/receiving plans Adopt local ordinances/MOUs to facilitate improved truck routing and delivery scheduling	December 31, 1992 December 31, 1992
4. Traffic Flow Improvements	Local government implement signal synchronization and intersection channelization.	1989-1993
5. Nonrecurrent Congestion	Nonrecurrent congestion design and program improvements.	1989-1 93
8 Airport Ground Access	Local government Airport Operators' rule or by January 1, 1992, SCAQMD adopt indirect source rule to reduce the number of air passenger auto trips generated by airports	January 1, 1991
11 Rail Consolidation to Reduce Grade Crossings	Local governments establish separate joint powers authority to develop consolidated corridor from Los Angeles to San Bernardino Port of Los Angeles and Long Beach and other agencies to obtain financing	January 1, 1993 December 31, 1992

SUMMARY
1989 AIR QUALITY MANAGEMENT PLAN (AQMP) APPENDIX IV-G,
WITH DUE DATES FROM THE 1991 AQMP, APPENDIX IV-E

LOCAL GOVERNMENT CONTROL MEASURES TO BE IMPLEMENTED BY DECEMBER 31, 1992

CONTROL MEASURE/TITLE	IMPLEMENTATION ACTIVITY IN 1989 AQMP WITH (SPECIFIED AMENDMENT IN 1991 AQMP)	DUE DATE IN 1991 AQMP
12.a. Paved and Unpaved Roads and Parking Lots	Local governments develop a "clean streets" management program	December 31, 1992
17. Growth Management (1991 AQMP) (Note, however, that no due dates in the 1991 AQMP for Measure 17 were sent forward to ARB and EPA as amendments to the 1989 AQMP because Measure 17 changed substantially in the 1991 AQMP; for example, the paragraphs in the next column were added.)	Local governments amend general plans, adopt ordinances and develop interregional agreements to attain growth management performance goals at the subregional level consistent with the Growth Management Plan.	December 31, 1994
	Local governments adopt resolution containing action plans which: a. Clarify the work jurisdictions will commit to do in order to implement Measure 17. b. Demonstrate the local jurisdiction's commitment to amending its general plan, developing an implementing plan, and/or adopting ordinances by December 31, 1994, to implement Measure 17.	December 31, 1992
	Local governments develop interregional agreements to attain growth management performance goals consistent with the Growth Management Plan (see Table I-1). Sanitation districts advise local jurisdictions in implementation of the growth management policy. Implementing jurisdictions must commit themselves to attain the goals stated above. It is assumed that: Between now and December 31, 1994, [illegible]% of the jurisdictions comprising 60% of the regional population and 60% of the regional employment will have demonstrated their commitment and By December 31, 1997, 100% of the jurisdictions will have committed themselves to achieve the goals of this measure.	December 31, 1994

ANTELOPE VALLEY ARCHAEOLOGICAL SOCIETY, INC.
Post Office Box 4514 • Lancaster, California 93539

RECEIVED
SEP 21 1992

September 19, 1992

Ms Laurie Lile
Associate Planner
City of Palmdale
Planning Department
38306 9th Street East
Palmdale, CA 93550

Dear: Laurie:

On behalf of the membership of the Antelope Valley Archaeological Society and our Environmental Review Committee I thank you for the opportunity to review and comment on the City's General Plan Update and accompanying EIR.

Our major concern is with the proposal of Policy ER7.1.4:

> Develop and maintain a cultural sensitivity map. Require special studies/surveys to be prepared for any development proposals in areas reasonably suspected of containing cultural resources, or as indicated on the sensitivity map.

Our concerns remain the same as voiced at the April Planning Commission meeting.

1. Historically sensitivity maps have been misused by many agencies resulting in the destruction of known resources which did not appear on their maps.

2. This is a step backwards from the previous draft of the General Plan Update which called for surveys or special studies of any project in an area not adequately covered by a previous study. (This is the recommendation of the Information Centers established by the State Office of Historic Preservation.) AVAS #1

3. The General Plan and EIR identifies all topographic areas as of "moderately high" or "high" sensitivity. Based on this determination sites are likely to occur in any part of the planning area. (The greatest concentration of potential historic structures is between Ave P and Ave T between Division and 70th Street East.) The City has (or had) special study guidelines which eliminated the likelihood of

requiring unnecessary studies of small infill projects not likely to contain historic or archaeological resources will providing for studies of projects over 5 acres or known to contain cultural resources. AVAS #1

How will this sensitivity map be prepared and maintained? How will it differ from the archaeological site maps the Planning Department already has which contain many of the known and recorded sites in the planning area? AVAS #2

On page ER-60 of the Draft General Plan (7/27/92) under the discussion of "constraints which may affect environmental resource management in Palmdale" constraint # 8 identifies lack of information as an "obstacle to the preservation of cultural resources. This obstacle can be greatly reduced by requiring cultural resource studies/surveys of all projects in areas not covered adequately by previous studies as advocated in a previous draft of the General Plan Update, recommended by the Information Centers, and requested by our membership. We again refer to the special study guidelines which the planning department had in place this past spring for making determinations of when a study is necessary. AVAS #3

Exhibit 3-55 is misleading. Not all of the shaded areas in this Sensitivity Map have been surveyed. Much of the planning area still needs to be adequately surveyed by qualified archaeologists. AVAS #4 In addition to the educational qualifications normally required we believe that familiarity with the Western Mojave Desert Cultural Area is an important qualification. AVAS #5

Table H-1 entitled "Potential Historic Structures" is not an exhaustive list and should not be treated as such. The parenthetical statement in the second listing (which reads "Address would place it near the Valley Press") belongs with another listing. The last listing on page H-1 which reads "Single-family houses south side of Avenue Q-10 between 10th Street East and 9th Street East" and identified as dating from the 1930's is incorrect. According to the APN records there is one 1938 structure, two 1920's (1920 & 1924) structures, and a 1913 Sadler Block house in that block. The 1913 and 1920 houses were owned by Sadler family members. AVAS #6

Table 3-26 entitled "Public Park Facilities" identifies a 10 acre undeveloped park site at the northeast corner of Avenue S and the alignment of 22nd Street East called "Avenue S Park". This location is part of the original "Old" Palmdale Cemetery property which originally consisted of ±20 acres not the less than 3 acres currently fenced. It is very likely that there are numerous burials outside the fenced portion which are not presently marked. This possibility should be explored before the property is developed. AVAS #7

The biological resources section does not mention the golden eagles which forage and probably nest within Palmdale's planning area. This is a protected species and should be considered among those species which may be affected by increased development. AVAS #8

We challenge the statement on page 5-9 that "Proposed mitigation measures and programs will allow for the maximum preservation and mitigation through salvage when necessary for these resources. Impacts will be mitigated to a less than significant level." We think it should be changed to read "Proposed mitigation measures and programs could allow for the maximum preservation and mitigation through salvage when necessary for these resources. Impacts may be mitigated to a less than significant level." We have seen too many archaeological sites and historic structures in north L.A. Co. destroyed to believe there will be no significant impacts unless the City sets more stringent requirements for the identification, evaluation, and preservation of cultural resources than described in this draft general plan and EIR. AVAS #9

City staff, the Planning Commission, and the City Council set the direction Palmdale will take. You set the standards for development and its affect on the preservation of Palmdale's past. We've made a lot of progress in the last 20 years in which the AVAS has been voicing our concern for the areas archaeological and historic resources. We commend the City for that progress.

We also hope we will be added to list of sources of information for updating the City's Master Environmental Assessment (see Table 1 sections 3.16.1 and 3.16.2.) AVAS #10

Thank you again for the opportunity to review and comment on these documents.

Sincerely,

Mark Campbell

Mark Campbell,
AVAS President

cc:Jim Ledford
SHIPO

August 27, 1992

RECEIVED
SEP 1 1992

From: Leona Valley Town Council
P.O. Box 795
Leona Valley, CA. 93551

To: City of Palmdale
Planning Dept.
38306 9th St. East
Palmdale, CA. 93550

Subject: Response to City of Palmdale Draft EIR and Draft General Plan.

The following general comments are provided in response to your request.

1). Numerous maps in both documents conflict over location of City western boundaries (Sphere of Influence), specifically at Bouquet Canyon Road. LVTC #1

2). Bouquet Canyon Road traffic impact is not addressed as a result of Elizabeth Lake Road improvements. LVTC #2

3). Maps of Elizabeth Lake Road show 4 lanes from 100th St. West, yet studies do not support map depictions. LVTC #3

4). Land use designation maps depict Leona Valley as "LDR", maps should be revised to show the designation "ER" or "SD" to reflect the L.A. County Community Standards District determination of 1 du. per 2.5 acre. LVTC #4

5). Change noted in item 4 above would also warrant revision of Elizabeth Lake Road from major arterial highway to secondary arterial. LVTC #5

6). Rural/agricultural areas ie; Leona Valley are not addressed apropriately in the General Plan/EIR. Objectives L1.3.1, L1.3.2, and L1.3.3 have not been met for topographical boundaries, or compatability with the community of Leona Valley. Provisions within the General Plan to meet these objectives are vague and missing. LVTC #6

7). Rural standards comparable to the L.A. County "Leona Valley Community Standards District" are absent from the Draft General Plan.
Proposed City development within Leona Valley conflicts with the L.A. County AVGP and CSD, provisions to address this conflict are missing.
In addition the draft EIR failed to inventory/address the cultural, physical characteristics etc. of Leona Valley as it would interface with Palmdale.
Rural standards comparable to the L.A. County CSD should be developed and included.

LVTC #7

8). Fire protection section does not address the City of Palmdale current fireworks policy as it would apply to a rural community ie; Leona Valley. Fireworks should be banned in outlying rural areas.

LVTC #8

9). The Leona Valley Town Council representing the community of Leona Valley does not desire to be within the City of Palmdale or Sphere of Influence.
It is requested Palmdale initiate action to remove that portion of Leona Valley (generally following the western ridge lines starting at 50th St. West) from within the Palmdale Sphere of Influence.

LVTC #9

10). As stated in the draft EIR the safe water yield for the Antelope Valley is 40,700 acre ft. Currently the City of Palmdale is consuming approx. 20,000 acre ft. with plans to expand 8.5 times to 169,731 acre ft. by the year 2010.

If the aqueduct were turned off/reduced in the year 2010 (as in 1991 and 1992), could the aquifer support Palmdale's 169,731 acre ft. demand plus the rest of the Valleys cummulative demand of 328,737 acre ft.?

LVTC #10a

Growth must be predicated on a stable water supply, the SWP aqueduct does not meet this definition.

Mitigation programs that include conservation and trust someone else to increase ground water supplies are inadequate as evidenced by our existing state of overdraft.

Where is the plan to increase ground water supplies 8.5 times to support Palmdales growth plans?

* What studies have been done to support this need?
  * Feasability
  * Approach

* Considering subsidence, how much un-used aquifer storage capacity remains today? LVTC

Where is the plan to protect our existing and future ground water suppies as required by CEQA? #10b

Since the aquifer is in overdraft today should the City continue to expand before a plan is developed to correct our existing overdraft?

Since no single agency manages ground water supplies in the Antelope Valley or Palmdale, shouldn't the City of Palmdale develop/manage that plan in concert with the growth plan it proposes?

Without a clear blueprint of where the water will come from, or how it will be managed, this General Plan should not move forward.

11). Included (see attachment) are 60 each comments submitted by L. Bosma 2-27-90 which do not appear to have been incorporated and also warrant response. LVTC #11

The Leona Valley Town Council thanks you for the opportunity to comment and looks forward to your response.

M. Johnstone, V.P.
Leona Valley Town Council
(805) 270-1402

27 February 1990

City of Palmdale
Planning Department
38306 9th Street East
Palmdale, CA 93550

Attn: Sheryl Sanderson

Subject: Palmdale General Plan Update

The following comments are in response to your request dated 15 February 1990.

	ELEMENT	PAGE#	PARA	COMMENTS
1.	Intro	The Planning Proces		The CAC did not include representation from Leona Valley
2.	Land Use	7	B	Existing land use for the Leona Valley (50thW - 110thW) currently is 0-1 du/2.5 acre plus Open Space per the land use policy map dated 12/4/86 by Los Angeles County Board of Supervisors. Revise Table LU-3 to reflect this.
3.	Land Use	Exhibit LU-2		The AVGP calls for Leona Valley to be developed consistently with its current rural character. Revise Ex. LU-2 to reflect Leona Valley as Equestrian Residential.
4.	Land Use	20	A.1.	The vacant land in the Leona Valley area is not in Palmdale Sphere of Influence but should be included as a Resource Conservation Area. Revise para to include Leona Valley.
5.	Land Use	21	A.2.	Leona Valley on the western side of Palmdale is also in a flood hazard zone. Revise para to include Leona Valley.
6.	Land Use	22	A.4.	According to CAC minutes dated 9/13/89, members voted 16 to 3 in favor of designating low density of 2.5 du per acre in the planning area west of 50th street to 110th. This 2.5 designation is supported by the residents of Leona Valley as it is more in line with the current AVGP and is the recommended acreage in the Leona Valley Community Standards District. (Note: When the 9/13/89 minutes were read, it showed 1 du per acre. This was corrected at the following CAC meeting to reflect the correct designation.) Revise this para and all Exhibit and map references to show the Leona Valley area (50thW - 110thW) at 2.5 du per acre.
7.	Land Use	30	LU-5	Include Leona Valley in Equestrian Residential figures and remove from Low Density Residential figures.
8.	Land Use	36	N	Revise last bulleted item to read: "The proposed Ritter Ranch project located in the southwest portion of the Leona Valley planning area."

	ELEMENT	PAGE#	PARA	COMMENTS
9.	Circulation	C-4		Include Bouquet Canyon Road and asterick(*) as a regional significant roadway.
10.	Circulation	C-5		Add a discription of Bouquet Canyon Road.
11.	Circulation	C-28	D.	This is not a correct description as the Aqueduct Bikeway has been closed to users for some time now.
12.	Circulation	C-29	Eques.	This section is not correct. These proposed trails are shown on recreation map of L.A. County's General Plan for A.V. and are not presently in existence.
13.	Circulation	Table C-4		Include Bouquet Canyon Road in the Traffic Model.
14.	Circulation	C-39	Tbl C-9	Bouquet Canyon residents and the City of Santa Clarita are concerned about the circulation impact. Therefore, Bouquet Canyon Road should be included in this analysis.
15.	Circulation	C-48		Delete bulleted item "North Hollywood, California 91606"
16.	Circulation	C-48	Tbl C-10	Recommended expansion of Godde Hill Road and Elizabeth Lake Road to 6 lane highways is a foolhardy assumption made with no thorough analysis or study. Godde in particular would take a major and costly engineering feat. Should we commit to such a grandeous plan? Recommend a more realistic lane expansion. Also, AQMD studies have shown that the narrow valley which Elizabeth Lake Road bisects could not support the high density listed in the analysis.
17.	Circulation	C-59	Tbl C-11	Same comments as item 16.
18.	Housing	5	2.	Add Ritter Ranch Planned Community.
19.	Housing	8	Tbl H-6	Add Land Use Category: "Equestrian Residential at 1 du/ac per 2.5" and related data.
20.	Housing	25	Tbl H-16	The acreage percent listed for open space is not consistent with data presented in the policy statements on Open Space in the Introduction. Increase Equestrian Residential and Rural Residential to accomplish these goals.
21.	Housing	27	Tbl H-17	The net density listed for Rural Residential (1 du/5.0) is not consistent with figures (1 du/1.0) given elsewhere.
22.	Housing	27	Tbl H-17	Including Resource Conservation Area in a potential development plan is inconsistent with the policies set forth for such an area. Delete from this table.
23.	PSU	5	Ex PS-2	The feeder line over Godde Pass is Agricultural/untreated water not "treated water" as stated.

	ELEMENT	PAGE#	PARA	COMMENTS
24.	PSU	16	5.	Delete Fire Station #114 as this is merely an On-Call Fire Station not a fully staffed engine company.
25.	PSU	17	Tbl PS-5	Station 114: Delete this station (see item 24 for explanation).
26.	PSU		Ex PS-8	Delete "Fire Station 114" (see item 24 for explanation).
27.	ERM	5	B.1.3.	Not only "Ritter Ridge" but all of Leona Valley is an ecologically sensitive area. Add.
28.	ERM	8	4	Add the following after "earthquake rift zone." "Leona Valley, in particular, currently supports several world renowned U-Pick Fruit Orchards and Lilac farms."
29.	ERM	11		Water Resources: Descrepancy with other data regarding the deep aquifer.
30.	ERM		EX ER-1	Map does not shown Leona Valley as an agricultural area. Correct map to show this designation.
31.	ERM		EX ER-6	1. Amargosa Creek and Leona Valley Wetlands are not identified on this map. Add this data. 2. No Wetlands vegetation in Leona Valley is identified. Add this data. 3. No Leona Valley wash habitate identified on map. Add this data.
32.	ERM	21	Tbl ER-2	Historical Resources: "Old Leona Schoolhouse" should read "Old Leona Valley Schoolhouse".
33.	ERM	27		There is no Equestrian Trail along the California Aquaduct. The California State Riding and Hiking Trail does not follow Sierra Highway. It cuts down in back of Acton, bi-passes under the freeway into Agua Dulce and up into the National Forest.
34.	ERM	28		Scenic Areas: Include Leona Valley in the scenic area.
35.	ERM		EX-10	Include Leona Valley in Scenic and Recreational Opportunities Area map.
36.	ERM	29		Delete the Ritter Canyon Aquatic Recreation Area - there is no such area
37.	ERM	31	3.1.1.2	Elizabeth Lake Road, Bouquet Canyon Road and Godde Hill Road are considered scenic highways. Why are they being included in the plan for widening as major 6-lane highways? Also, the correct name is Godde Hill not Hills.
38.	ERM	34	Pol4.2.3	Add "Portal Ridge which includes stands of rare manzanita".
39.	ERM	35	Pol5.1.5	Add policy statement to include the preservation of native wildlife which currently includes some endangered species.

	ELEMENT	PAGE#	PARA	COMMENTS
40.	ERM	37	Goal 1, 2	The Trails system does not coincide with the General Plan for rural/equestrian residential areas. Make correction.
41.	ERM		EX-11	Include Leona Valley. This is a rich paleontological area.
42.	ERM	45	7	This goal for scenic highways is good, however, contradicts circulation plans for widening of roadways to 4 and 6-lanes which disqualified them from being scenic highways.
43.	ERM	53 54 55	11, 12 13, 14, 15, 16 17	Refers in todo to Leona Valley " "
44.	PS		EX S-3	The San Andres Fault Zone through Leona Valley is not included. Include.
45.	PS	7	8.	Add "Godde Hill"
46.	PS		EX S-5	Leona Valley is in a Flood Hazard Area (AVGP). Please include.
47.	PS		EX S-7	The slope indications are not correct for the Leona Valley. The appear to be totally reverse from what they are. Since funds were not approved by City Council to study the Leona Valley area, how were these slope categories determined?
48.	PS		EX S-8	What is the basis or study used for the data presented in Leona Valley. (See above)
49.	PS		EX S-9	Same comment as items 48 & 47.
50.	PS		EX S-10	Same comment as items 48 & 47.
51.	PS		EX S-11	Same comment as items 48 & 47.
52.	PS	11, 12	EX S-12	Include Leona Valley in Fire Hazard area. Does not mention that Palmdale is the only area that allows the use and sale of fire works which Leona Valley considers to be extremely hazardous. Fireworks must be banned in fire hazard areas.
53.	PS	32	4.	This paragraph contradicts paragraph 5. Delete entirely.
54.	PS		EX S-14	There is no school on Bouquet Canyon Road. Delete.
55.	PS		EX S-14	The Fire Station shown in Leona Valley is not a staffed fire station, but an on-call facility only.
56.	PS	41	1	Are these in lieu of the Hillside Management Plan currently under study?
57.	PS		EX S-15	Studies need to be conducted to correctly identify these areas particularly those in the Leona Valley area. This is not something that should be guessed at.

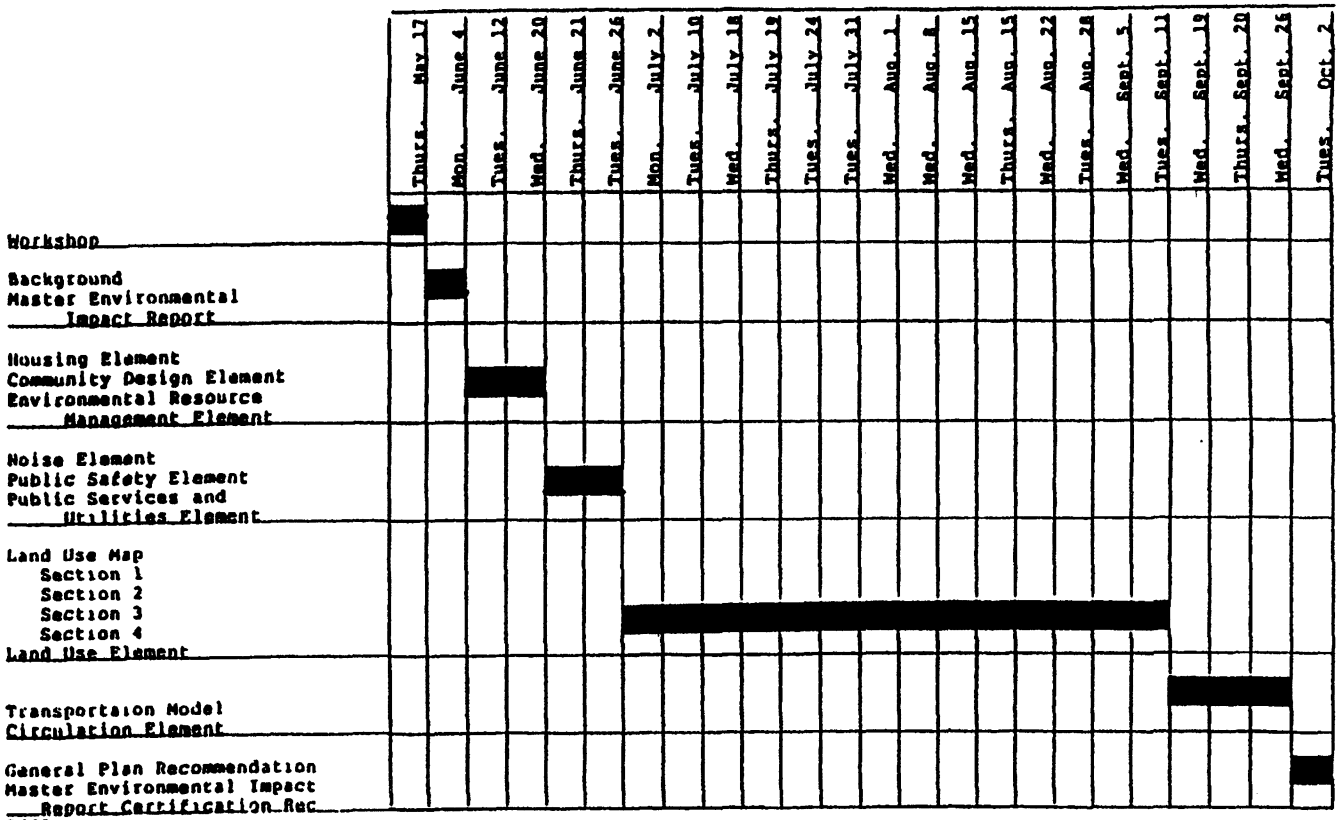
	ELEMENT	PAGE#	PARA	COMMENTS
58.	General Plan Map Section 1			This map does not appear to be complete nor accurate. Does the Plan Update include all of the Leona Valley area west of Palmdale City limits (as the text indicates), or just that area which is shown on this map. In previous maps, the area south of Elizabeth Lake Road and west of 50th was included. This map, however, bisects Leona Valley at Elizabeth Lake Road. Just what is the area of planning beyond 50th? Secondly, the area west of Palmdale and known as Leona Valley should be designated an "Equestrian/1 du per 2.5 acre" area rather than a "low density/1 du per 1 acre" as defined in earlier text. This is more in line with Leona Valley's rural/equestrian character. CAC recognized this lifestyle and voted to designate this area as 1 per 2.5 in a 16 to 3 vote on 9/13/89. How and who changed this designation to 1 acre? Change it back to 2.5. Thirdly, to arbitrarily designate this environmentally complex area as 1 acre - with no study in hand nor planned to accurately examine its uniqueness - is just not responsible planning. I strongly urge either deleting the Leona Valley area from this update map or (again) urge City Council to appropriate the funds necessary to conduct a thorough study. Also, not to be ignored are the residents of Leona Valley who have made it very clear to the CAC, Palmdale Planning, and the Palmdale City Council, that they do not want to see the urbanization or city-like development of their community.
59.	General Comments			There is no plan for protection of the variety of wildlife or their habitat. I urge that this General Plan Update include a strong policy statement and a clear cut plan to provide for the survival of the many species that are native to the Antelope Valley area.
60.	General Comments			The Equestrian Residential area is limited to the flats without any access to the proposed trails system which is in the foothills. All backwards - not in accord with the Master Trails Plan.

Submitted by Larry Bosma
Member, Palmdale Citizen Advisory Committee

Prepared by Mary Ann Floyd
LVIA Land Use Chairman

GENERAL PLAN UPDATE SCHEDULE

PLANNING COMMISSION PUBLIC HEARING DATES, 1990



2662p

BIA
ANTELOPE VALLEY
BUILDING
INDUSTRY
ASSOCIATION

OFFICERS
Pete Petersen
Haas Inc
Greg Anderson
Rancho Vista Development
Matt Beerer
West Venture Development
Kyle Keller
Kaufman & Broad, A V Div
Kirk Lazarus
The KML Group
Peter Werner
River Ranch
Andy Anawan/Secretary
Lincoln Property Co.
Bob Schuck/Treasurer
Stewart Title
Terence Baird/Chapter Counsel
Kamler & Walsh
Andrew J Elopulos
J P Elopulos Enterprises Inc.

BOARD OF DIRECTORS
Elizabeth Appel
Anden Group
Laird Donor
Laird A Donor Inc
Steve Finn
Epic Development Corp
Austin Garrison
Larwin Company
Troy Green
Underground Unlimited
Ron Guthrie
Creative Touch Interiors
Earl Jones
Tejon Consortium
Danielle Lewis
Sutphin & Marvin Real Estate
Don Omer
Sierra Pacific Group
Peter Paraggopoulos
Pardee Construction
Scott Richter
Centex Homes
Frank Webb
Premier Homes
Bill Wood
Chicago Title
Chris Yellick
The Ross Company

ADVISORY BOARD
Bill Bromley
Syndicated Real Estate
Joe Cipriano
Griffin Homes
Darth Elopulos
Antelope Valley Escrow Co.
Thomas J Hoover
Earth Systems Consultants So. CA
Don Leber
Shepheard Tractor Corp.
Gary Levon
Smylie & Levon
Michael Rubin
Anden Group
Tim Schulz
State Sand & Gravel
Joel Silverman
JSA Engineering
Matt Systom
Home Owners' Warranty
Tom Wesson
The Wesson Group
Bill Woods
Continental Lawyers Title Co.

Richard H. Norris
Executive Director
805-949-6857 FAX 805-949-6080
1805 West Avenue K, Suite 202, Lancaster, CA 93534

September 23, 1992

Ms. Molly Bogh
Director of Planning
City of Palmdale
38300 N. Sierra Highway
Palmdale, CA 93550

Dear Ms. Bogh:

Enclosed are the BIA's concerns and most of our comments relating to the General Plan draft document and EIR.

AIR QUALITY

1. The first bullet on page 4-40 should be eliminated. BIA #1

2. The payment of fees as stated in Section 2 on page 4-51 could end up costing commercial developers hundreds of thousands of dollars in unnecessary fees. BIA #2

3. What does Policy ER5.6.1 mean and how is it achieved? Do we need to do things that only apply to new development, or are we not part of the City's general trip reduction program? BIA #3

BIOLOGY

1. We must remind the Planning Department that it is the City Council's desire to let the Federal and State agencies regulate the classification and determine the policies of dealing with endangered or threatened species. It is not appropriate to have the City staff independently determine whether a species warrants focused analysis in a manner that exceeds what has been determined by State and Federal Agencies. A classic example of the City's policy was the handling of the Blue Butterfly during the processing of the East Side GPA. The staff wanted additional studies for each project, however, there was no support of this request from any of the regulatory agencies. BIA #4

2. Exhibit 3-18 needs to reflect the additional development in East Palmdale and the East Side GPA findings with regards to the 100 year flood line. Additionally, the existing quarry uses are not shown on this exhibit. BIA #5

3. The fact that Palmdale is a Zone 2 area should be stated on page 3-85 for the Desert Tortoise. BIA #6

4. The result of the numerous applicants provided and City initiated studies should be summarized with respect to the Mohave Ground Squirrel (page 3-88). BIA #7

5. it should be stated that the Little Rock Wash (page 3-89) has been very disturbed by quarry related activities. BIA #8

Comments on General Plan

CIRCULATION ELEMENT

(Please note, Initial Comment refers to the comments to Tom Horne on June 5, 1992 by John Carroll)

Section 2: GOALS, OBJECTIVES AND POLICIES

1. Policy C1.2.3.a
   Initial Comment: We are concerned that access to large lot residential in rural areas would be eliminated.

   City's Resolution: Added "except where no other feasible access is available." This is acceptable so long as "feasible access" considers the financial aspect. In other words, offside road way construction is not considered feasible access.

2. Policy C1.2.3.b&c
   Initial Comment: These paragraphs were prohibitive for commercial development.

   City's Resolution: These paragraphs are intended for residential only. Statements "for residential development" and "in residential development" were added which solves our initial concerns.

3. Policy C.1.2.3.f
   Initial Comment: "Raised" medians are not required on all major and regional arterials.

   City's Resolution: The word "raised" was removed. To clarify further, we suggest "(raised or partial)" be added after medians.

4. Policy C1.3.1.c
   Initial Comment: The specific reference to 1500 ADT as the separation between local and collector streets should be revised to 2,500 to 5,000 ADT.

City's Resolution: The specific reference to 1500 ADT was removed leaving the paragraph as a general statement which is acceptable.

5. Policy C1.3.1.d
Initial Comment: This statement was the initial concern of Policy C1.3.1.c above. The restriction of driveways on to a collector street or local streets which function as collector streets is of concern. Houses either front on, side on, or back on to streets. With restrictions to four way intersections, intersections on Tee intersection spacing, and "Dog Leg cul-de-sacs," etc., more and more streets will end up with lots backing on to streets (with block walls) which will give the City more alley street appearances. The City staff has assured us that the word "discourage" will allow for flexibility in design. We hope that the Planning Commission and City Council understand the design concepts and consider some of the "discouraged" traffic elements such as:
    1. Drive way access;
    2. Four way intersections;
    3. Dog leg cul-de-sac;
    4. Curvealinear continuous local streets;

to be considered as "good design."

6. Policy C1.3.1.f
Initial Comment: The maximum cul-de-sac length of 500 feet was too short and restrictive. The "dog leg" cul-de-sac is a good design element to maintain tee intersection spacing and avoid four way intersections.

City's Resolution: The cul-de-sac length was increased to 700 feet which is acceptable. Again, City staff has assured us that the term "should be avoided" for "dog leg" cul-de-sac will allow for flexibility.

7. Policy C.4.4.a
Initial Comment: The reference to a 28 foot off tract paved access was too large.

City's Resolution: This was revised to 28 feet for the first 200 feet and 26 feet there after.

8. Policy C1.4.5.b
Initial Comment: Some flexibility of design should be allowed for knuckles.

City's Resolution: The term "plus or minus 10 degrees" was included which is acceptable.

9. Policy C1.4.5.d
Initial Comment: The 300 foot intersection spacing will not work with the other "discouraged" and "to be avoided" statements in this policy.

City's Resolution: The City added "where necessary to provide adequate queuing room for left turn movements onto collector streets. Where left turn movements onto collector streets are not needed this spacing requirement may be reduced to 150 feet." Staff has again assured us that for local street layout 150 feet will be allowed. The 150 feet for Tee intersection spacing in residential subdivisions is essential. Refer to our statements in Policy C1.3.1.d above.

10. Policy C1.4.6
This policy is acceptable for private road pavement structial section, but not for width sections. Flexibility should be allowed for street sections in width and curb sections. Private street development should allow for creative design.

11. Street Cross Sections - The City staff had agreed to add the words "painted or raised" to the street sections where medians are visual. This latest copy had not been revised.

ENVIRONMENTAL RESOURCES ELEMENT

1. Policy ER 1.1.5 - Retention of Open Space
The policy should be revised to say that the city should retain open space by acquisition as well as dedication.

2. Policy ER 2.1.1 - Designation of SEA's
The last sentence should be changed to state that development will not be permitted in those areas if after mitigation the development is likely to degrade important environmental resource to an unacceptable level.

3. Policy ER 2.1.5 - Joshua Trees
The City has a Joshua Tree ordinance! The policy should state that the ordinance should be implemented rather than declare that additional significant stands of Joshua Trees should be

preserved. If they are to be preserved, that should again be accomplished through acquisition.

4. Policy ER 5.4.2 - Toxic Emissions
How will this policy be implemented? The policy seeks to prevent the release of air toxins through the environmental review process. Does this apply to building materials, etc?

5. Policy ER 5.6.1 - Reduce VMT
This policy is questionable. It requires developments to reduce vehicle miles travelled to the maximum amount feasible. The policy should be revised to say that developments should comply with any Congestion Management Plan or Transportation Demand Management Plan that has been adopted by the city. As it stands, this could require all sorts of costly and ineffective measures simply because they are feasible.

6. Page 14, Section 3 D-2 - Indirect Source
ELIMINATE THIS SECTION! This would require the city to adopt an ordinance to require mitigation of mobil source emissions and a study to determine on each project the regional VMT that the project would generate. This is worse than the Kern County indirect source rule.

7. Page 19, Section I - Native Desert Vegetation Ordinance
Delete the last sentence which requires preservation of significant stands of Joshua Trees.

8. Page 35, B - Water Resources
We strongly object to the following statements:

> "overdrafting or pumping in excess of the recharge is prevalent in the Antelope Valley. Groundwater wells serve 80 percent of Palmdale's water needs and the California Aqueduct provides the remaining 20 percent."
> "The continued reliance on groundwater to meet current and increasing demands for water <u>due to rapid urbanization</u> in the Valley has lowered the water table continuously."

We believe these to be false statements that must be rewritten to reflect reality.

The Los Angeles County Public Works (PWD 1991) White Paper - Antelope Valley Water Study and Source of Supply released in March of 1991 paints a

more accurate picture. According to this report, the 1989 water demands of Palmdale reveal that the L.A. County Waterworks District drew 46% and the Palmdale Water District drew 52% of its water from wells (PWD 1991, Table No. 3, page 5) - not the 80% mentioned in the GPU.

The report also contradicts the statement that rapid urbanization "has lowered the water table continuously." The white paper states instead that "current groundwater extractions are less than natural recharge and overdrafting of the basin has stopped. Groundwater levels have stabilized in the central part of the basin with water level increases from 10 to 60 feet in the east and west portions of the basin." (PWD 1991, page 12) Contrary to the position stated in the GPU, the report states that:

> "the conversion from agricultural to M & I (municipal and industrial purposes) and the use of SWP (State Water Project) water by the groundwater extractors has resulted in relieving the overdraft of the basin. This has stabilized the groundwater levels and a rise has been recorded in Waterworks wells indicating the banking of some of the natural recharge." (PWD 1991, page 8)

HOUSING ELEMENT

1. Policy H2.1.4 - Why is the City restricting the affordable units to 30 years? Why not 20 years?

2. We believe that the program described at H1.F of Section 2 (page H-3) should be voluntary vs. mandatory for a variety of reasons. We wish to further discuss this matter prior to the adoption/drafting of any future standards, policies, ordinances, etc.

3. We wish to further discuss program H 1.E described in Goal H1 of Section 2 (page H-4) prior to the adoption of any future standards, policies, ordinances, etc.

4. We would like to further explore with the City of Palmdale the program described at H1.g of Section 2 (page H-5) inasmuch as we concur with the underlying objectives.

5. We continue to encourage the use of Single Family Mortgage Revenue Bonds as discussed in program H1.I of Section 2 (page H-6).

6. In order to equitably attain Objective H1.5 of Section 2 (page H-8), it is critical that the City of Palmdale devise methods to expand the tax base as a means of reducing new development fees and, thereby, maintain the affordability of Palmdale as mentioned in comment (1) above. Housing fee increases can no longer be passed along to new single or multifamily owners while existing residential, commercial and industrial users are given a "free ride." We are more than willing to discuss this issue in greater detail at your convenience.

7. We wish to further discuss program H6.A described in Goal H6 (page H-21) prior to the adoption of any future checklists, policies, ordinances, etc.

8. We wish to further discuss program H2.A described in Goal H2 of Section 2 (page H-10) prior to the adoption of any future standards, policies, ordinances, etc.

9. The data contained in Section 5: Housing Characteristics - Overcrowding (page H-47) emphasizes the importance of maintaining affordability as a key attribute for the City of Palmdale. We concur with these findings.

10. Page H-112 states that a 7000 sf lot yields 6 units per acre. For 7000 foot lots, the average yield is 4 units per acre. Also, the land prices appear to be in conflict with the City's appraisal numbers.

11. Tables H-37 & 38 show a lower school fee than what is required by the current rules.

LAND USE

1. How was the 3 units per acre assigned to Policy L1.4.2.b?

2. What exactly does it mean for Policy L2.1.6? Does this apply to all projects, regardless of size?

3. Throughout Goal L3.1; the high range of density is used for the calculation of potential population.

This is wrong. For example, the single family (3.1-6) density calls out that there will be 9,700 people per sq. mile. R-1-7000 lots yield only 60-66% of this density. This is important because it is from this section that the library and public service needs are determined for the community.

4. Policy L3.4.3 - In east Palmdale, there are several greater than one acre, yet the density will be 3.1-6 units/acre. We think that there is an error in the wording of this Policy.

5. Policy L4.2.8 - Why 6%? Why not 10% which is in greater conformance with the Hillside Ordinance.

6. The Exhibits LU-4 and Continued should be adjusted to reflect the current building activity and the information provided through the East Side GPA. For example, LU-5 should show development occurring to 70th Street East, not 55th.

NOISE ELEMENT

1. The Noise Element never really explains why the various standards were chosen. The implication is that they are derived from Table N-1, but the writers never quite say so. In fact, it is purposefully pointed out that Table N-1 is not a standard but a guideline. Yet, the element fails to bridge the gap between this guideline and Table N-3. Also, the relationship between Table N-1, which is expressed in CNEL, and Table N-3 expressed in Hourly Leq standards, is unexplained. None of the Policies use the Leq term. It appears out of the blue. The Noise Element badly needs a section explaining how the standards were developed to have Table N-3 make more sense.

2. Policy N 1.1.3
This policy may eventually be in conflict with the proposed Noise Ordinance. The ordinance will usually be more restrictive. Therefore, the Policy might be altered to require compliance with the CNEL criteria and the Noise ordinance.

3. Policy N 1.1.4
This policy is confusing. It is not clear why one would use Table N-1 if Table N-3 is to be the adopted standard. A better explanation of the application of the two tables is needed.

4. Page N-7, second paragraph
   Table N-4 should read "Table N-3."

5. Table N-6
   This table is produced by a computer program. The parameters used in the program should be specified, since frequently, the program must be run for sound barrier calculations and other reasons. Parameters include speeds, vehicle mix, ADT's and roadway dimensions.

The primary implication of the Noise Element for the builder is high sound walls. Many streets will require barriers eight to ten feet high. This is not spelled out clearly in this document. It ought to clearly point this out to the policy makers somewhere along the line.

We strongly urge the City to consider the consequences of requiring abrupt changes in requirements on projects already in the design or approval process.

We request representation/advance notice concerning:
1) The drafting of any corresponding noise ordinance(s) and
2) Any revision(s) to current sound wall design standards.

PUBLIC SERVICES ELEMENT

1. Policy PS1.1.2 - This policy does not state how the City is to determine fair share.

2. Policy PS1.1.3 - Currently, the City is allowing occupancy even though off-site improvements are not completed, but are bonded for. What "complete" means is not specified in this document.

3. Policy PS1.1.4 - No mechanism to provide funding is specified.

4. Policy PS1.1.5 - The complicity of these backbone plans are not specified. A master plan concept should be adequate. Preparation of final improvement plans should be deferred until after approval has been granted.

5. Objective PS1.2 - This objective should help alleviate hodge-podge localized development and tie areas together so all development can proceed in a logical fashion.

6. Policy PS1.2.5 - In making the requirement that infrastructure be designed and constructed to "ultimate," no mechanism as to who will pay for these "ultimate" improvements is provided. I.e. reimbursement, community facilities district, Mello Roos, or developer pays all. Policy 1.2.8 does not specify the mechanism.

7. Policy PS1.2.6 - This may unnecessarily lead to having the development pattern for adjacent undeveloped parcels set before any plans have been prepared.

8. Policy PS1.2.8 - This policy does not specify any mechanism.

9. Objective PS1.3 - Through this objective, the City is emphasizing infill projects that can utilize existing infrastructure. The incentives to achieve this objective are not specified.

10. Policy PS1.4.2 - We wish to further discuss this matter <u>prior</u> to the adoption of the service level standard.

11. Policy PS1.4.5 - If this fee is to fund programs, we request it is levied upon all properties, not just new development.

12. Policy PS1.5.1 - We are concerned that formally including the recommendation of adjacent jurisdictions is just going to add another agency into the loop to get a project approved.

13. Policy PS1.5.3 - Again, we are concerned that formally including the recommendation of adjacent jurisdictions is just going to add another agency into the loop to get a project approved.

14. Policy PS3.1.2 - It is not specified how this will be evaluated.

15. Policy PS4.1.4 - This policy has the appearance of allowing the City to determine how much the school fees will be. Is this going to be in addition to the State mandated fees?

16. Policy PS5.3 - Although not stated that this policy is for library service, we are concerned that this policy may cause a mitigation fee to be created to meet these criteria.

17. Policy PS5.4.4 - This needs to be clarified with respect to policy PS5.4.1. Is this a park in lieu fee or a separate fee?

18. Objective PS5.6 - Although not stated in this objective, we are again concerned that the City will create an impact fee to meet this objective.

SECTION 3: IMPLEMENTATION

19. Item C2.b - We wish to further discuss this section prior to the adoption of any future standards, policies, ordinances, etc.

20. Item E, Development Plan Review, No. 6
The City's development plan review process shall include and/or consider - Utility line easements and facilities designs.

    Comment - Does this review process imply reviewing existing utility line easements and designs (as builds), or development proposed?

    Public utility (electric, telephone, gas and cable television) easements and designs for proposed developments are typically not available at the time of development plan review.

21. Item E1 - We are concerned that coordination with capital improvement projects could hold-up development of a needed project until the City is ready to move forward.

22. Item E3 - Are we going to be required to address cumulative impacts on the ground water basin? We request clarification.

23. Item E8 - Again, are we going to have to address cumulative impacts. We request clarification.

24. Item M - This section needs to address NPDES.

25. Item R - This is the continuing theme throughout the element. The City talks about mitigation, but it is not possible for a perfect project to be built. The City will need to implement a policy for the preparation of the fiscal analysis. We request the opportunity to be involved in that process to ensure that all applicable income attributable to a project is considered (i.e. gas tax, sales tax, etc.).

26. Item S - Facility fees and charges will be imposed on new developments pursuant to City ordinances. Facility fees and charges may be established for new development to pay for the infrastructure and services that are needed to maintain the project.

    Comment - Without specifying which utility infrastructure and services are implied, the above statement provides an open door for fees and charges to be applied to any and all utilities. This would include electric, telephone, gas and cable television, utilities which developments already advance fees to for services.

SECTION 4: ISSUES AND OPPORTUNITIES

27. Item 9 - Telephone Systems: Paragraph 2 - "Developers must pay for the extension of existing lines to serve their developments, and the cost of line extensions is determined by the number of lots served."

    Comment - The above statement is incorrect and misleading. Under CPUC Tariffs, the developer is responsible for costs equating to 3/4 of the difference between an overhead system and an underground layout (Directional Feeder Route) will have an effect on the amount of infrastructure to be installed. This will effect the amount of service, is determined by the utility and the need for immediate service, and is not the responsibility of the developer. Specific development circumstances may allow for costs to be postponed. Not always does the developer pay for off-site extensions.

28. Exhibit PS-11 - This exhibit does not accurately reflect the current exchange boundary between GTE and Pacific Bell. Specifically all of TT-49016 (Rancho Vista Golf Course) falls within the Pacific Bell exchange boundary.

27. Item T - This statement should say "The City will assist when up-sizing is required." The City has provided no provision that specifies how up-sizing will be accomplished.

SAFETY ELEMENT

1. Policy S1.1.7 - "Restrict location of utility lines, whether above or below ground, within fifty feet of a fault trace, except to cross the fault trace."

   Comment -This is a very objectionable policy. Streets have been the areas where faults have been aligned and this would be a fundamental change in city policy. Furthermore, fifty feet is a distance of absolutely no engineering merit. some faults require setbacks of much less, some much more. The policy should instead merely recommend that engineering review placement of utility lines in relationship to geologic hazards. if it is the intent to change this important element, planning it must be discussed publicly and setbacks should still be per engineering review.

2. Policy S1.2.4 - "All required primary and secondary access and egress routes for all new development should be "dry" access located outside of the 100-year flood plain."

   Comment - Some roads are designed to carry 100-year flood water.

3. Policy S1.2.7 - "Ensure that storm water drainage is designed to limit peak flow conditions."

   Comment - We believe this should say "designed <u>for</u> peak flow conditions."

4. Policy S2.4.1 - "Require that no jail...be located within five miles of a school..."

   Comment - The opposite side of this issue is that no schools could be built within five miles of existing prisons. On the west side, this will seriously impact locations for future schools.

5. Policy S2.5.1 - "...residential entryways be visible from other nearby units..."

   Comment - While only an observation, this could have serious impacts for designing homes and neighborhoods.

6. Policy S4.2.3 - "Promote the use of water filtration systems at point-of-delivery for acceptable water quality in emergency situations."

   Comment - Please clarify. Is this for facilities designed for emergencies or for all homes?

7. Page S-18, #18. Development Review
   Comment - Line 2 should say "the City will enforce its standards."

8. #19. Water Quality Monitoring
   Comment - Line 1 should say "The City <u>will attempt to</u> cooperate with the Regional Control Board and local water purveyors..." The City must reserve its rights to differ with water agencies. As this item is written now, water purveyors will have immense planning powers.

9. Page S-20 - "Engineered construction must withstand secondary rupture in structures near fault zones."

   Comment - Please clarify. We are not sure what this means. As shown by the recent Leanders Quake, we do not believe it is possible to predict or prevent damage <u>near</u> fault zones.

10. Page S-20 & S-21, Fire Safety Standards
    Comment - Please clarify. Where are these standards? As written this could mean all homes must include flame retardant construction with sprinkler systems. Given our present fire protection system, this is clearly not needed.

11. Page S-23 - "Along earthquake fault zones and flood plains, development shall be minimized to low intensity uses, such as recreation, agriculture, rural residential and open spaces."

    Comment: No. This is clearly contrary to City policy and could restrict growth in much of the City. Present standards for development along fault zones and flood plains, based upon reasonable geotechnical review, are adequate.

12. Page S-45 - "Areas with collapsible soils should not be developed unless the hazard is remedied through excavation of the first 3-4 feet and re-compaction of the area to attain the required cohesive strength, or other acceptable engineering practices for anchoring soil stability."

Comment - A specific recommendation is not appropriate for a General Plan. Merely stating that soils recommendations are needed and should be followed is adequate.

Thank you for allowing us the opportunity to address our concerns with the General Plan Update.

Sincerely,

Richard H. Norris
Executive Director

September 8, 1992

RECEIVED
SEP 18 1992
CITY OF PALMDALE

CITY OF PALMDALE
38306 9th STREET EAST
PALMDALE, CALIFORNIA.....93550

Subject: Property Owner Comment: "DRAFT ENVIRONMENTAL IMPACT REPORT-GENERAL PLAN." Legal Ad #92-69 Published August 9, 1992.....

Three-acre parcel located adjacent to the southwest corner of 10th Street West and the AV Fwy. (Hwy. 14)
Parcel: 3005-038-003

WMS#1

Attention: Laurie Lile Palmdale Planning Dept.

My wife and I purchased 3-acres of subject vacant land on May 27, 1971. At the time of purchase, the land was in L.A. County territory. The reason we bought the 3-acres was for the L.A. County zoning designation of MPD, (Manufacturing Planned Development.) Our ultimate intended use was for a manufacturing, "Use." Ongoing from the time of purchase through most of the ensuing 21-years our land remained in the L.A. County area and retained the MPD zoning. At a point in time, the City of Palmdale annexed our property, discontinued our MPD zoning and advised that the City would no longer permit our ultimate intended use. At that point, our land lost all value to us, the City offered no remuneration for our loss and we are forced to sell. The City then placed our vacant land into assessment districts 88-1 and 90-1 and escalated our annual property tax bill from $559.48 too $19,518.89 for the next 25-years, in payment of the City owned sidewalk and street lights.....Since our land could not be used for the intended manufacturing purpose and the vacant land generates no income, 83% of our total income is being taken by the City of Palmdale in taxes. For the above reasons, the City of Palmdale is forcing us off our property due to the loss of use and the back-breaking City taxes ....It would appear that this has the elements of an inverse condemnation.

Since cancelling our MPD zoning, the City under their General Plan is assigning, Community Commercial or Regional Commercial designations. Palmdale planning personnel have advised that a Regional Commercial designation is intended for; "facilities which are planned to serve the regional needs of a broad service area, including the entire Antelope Valley." This means a large retail dept., store or something like a hotel or who knows what? Such a designation is much too restrictive and should be made more flexible on the lower-end to include C-3 small retail type operations besides the , "large retail dept., stores," or a hotel. Our property is only 3-acres and the chance of it being combined with other property is slim-to-none. The broad Regional Commercial designation is extremely ambiguous and arbitrary.... Planning personnel themselves don't seem to agree on what facility,

"serves the needs of a broad service area." This could be anything and interpreted differently by any number of City personnel and detrimental to the property owner. In a recent incident, a prospective buyer contacted Planning regarding the feasibility of locating an automotive service center on the property similar to Sears & Roebucks' facility next door to us and ½ mile-west on the Forest City Mall property. Planning personnel discouraged the project and it failed. When questioned, three separate planning personnel gave 3 totally different reasons as to why the project was discouraged....We asked out of curiosity, if a fast-food facility would be acceptable or a strip mall of stores and the response was...No, inspite of the fact that Carl's Jr., is situated little more than 100 yards south of us.... On the same property line 100 yards north is C-3 zoning. The proposed, "Use," is so ambiguous and arbitrary that the City can designate any type of zoning at anytime. This leaves us, the 21-year property owners who are being forced out due to the loss of our original zoning plus, back-breaking City of Palmdale taxes, in worse shape than when the City cancelled our original MPD. An ambiguous, "Use" designation equates to no zoning at all. What we are saying here is that it is a mistake to limit the property to a large dept., store, hotel, etc. Properties next to us on 10 th West, carry a broad designation for small C-3 type retail operations which would fit on 3-acres or other small parcels.

A response from the City of Palmdale to this petition advising that we should apply for a zone change if the imposed designation is not workable is unacceptable and impracticle....Veteran City of Palmdale property owners and developers who have been through the process advise that an application for a zone change is fraught with layers of red-tape, is expensive and very time consuming and prospective buyers or developers are not willing to make the commitment of time and expense for such a tenuous chance of approval on such a small parcel.

Under normal circumstances, a small parcel of vacant land which generates no income can be carried for extended periods of time while surrounding development matures and the small parcel is developed. In this instance, the City of Palmdale mandated off-site improvements in the form of sidewalks, street lights, etc., before development occurred and imposed a devastating tax burden of approximately $350,000 for 25-years. As a result of the tax burden, the property cannot remain vacant for extended periods due to highly controlling and strict zone regulations. A property owner is left with little options by the City other than to allow the City to foreclose and confiscate the parcel.

The situation speaks for itself....With City of Palmdale annexation came: loss of long standing zoning, a devastating tax burden on vacant land, and the threat of foreclosure and confiscation by the

City of Palmdale.....To impose even more restrictions by way of a rigid and intractable zone imposition will only exacerbate an already disastrous situation.

Please advise your approval.....

Sincerely,

Wayne S. Squire

Mary G. Squire

4851 West Avenue M-12
Quartz Hill, Ca...93536

cc:

Charles Brink

When possible to save time I prefer response by FAX instead of mail.

PO Box 9333 Van Nuys CA 91409
818-886-5223 FAX 818-886-1026
PO Box 69 Acton, CA 93510
805-269-2030 FAX 818-269-2036
800-773-5228

The City of Palmdale, Planning Department

Via FAX 805-274-7613

CB

In reference to the Proposed master plan and EIR

I represent a number of community members in Acton and We oppose your new general plan.

These doucoments are filled with errors and omissions.

For Example: Exhibit LU-3 fails to show any slope contours south of the ridgeline in the portions of Acton in sections 13 to 16 and 16 to 14 and those unnumbered sections to the south of these sections on LU-2

Each of the Environmental impacts stated in the DEIR fail to state a reasonable mitigation and are wholly inadequate. CB #1

The negative impacts, even after these wishful and inadequate "mitigations", are damaging the communities of Palmdale and it's neighbors.

Geology

To allow construction which will be damaged by a predicted strength earthquake is criminal. The mitigation should be NO new construction that will not survive the earthquake without hurting the persons in the new construction. CB #2

Air quality

You must not allow any new residential construction until the jobs-housing balance is corrected and limit growth not to exceed the levels mandated by the appropriate State and Federal agencies. CB #3

Water Resources

You must allow no new projects without proven permanent sources of water. Your proposed mitigation is just wishful thinking CB #4

Natural and Biological resources and land use

These show vast negative effects without proper mitigation. CB #5

Population and Housing, traffic, public services, public utilities, and the whole study

The DEIR is so bad that a comment is not sufficant. It must be started over, for example:

The traffic on the Antelope Valley freeway to the jobs in LA is not even discussed even though in the rush hour the traffic is at grid lock, and you plan a 6 fold increase without any mitigation.

Your boundaries with Acton at the south are not correct, the farthest possible extension of your city must be the ridgeline as seen from your side of the valley.

As there was inadequate time to respond in more detail we demand a full 30 days after a full copy of the DEIR, Revised General plan and support documents are availably in the community.

The best advise to Palmdale is to stop growth and any new annexations, except isolated small pockets, until the disastrous problems (Jobs, Crime, Schools, and Water) are cleaned up, then think of expanding.

Quartz Hill Town Council

42263 50th St. West, Suite 1111
Quartz Hill, California 93536

September 23, 1992

Laurie Lile
City of Palmdale
38306 9th Street East
Palmdale, California 93550

SEP 23 1992
CITY OF PALMDALE
5:12 pm L Lile

Dear Laurie Lile

The following is a list of concerns in relation to your Environmental Impact Report. We wish to take this time to thank you for this opportunity to express our concerns and that of the residents of Quartz Hill. We are looking forward to a response from you regarding the issues stated.

Sincerely,

Doug Burgis, President
Quartz Hill Town Council

Doug Burgis, President - Clara Hobbs, Vice President
Frank Sloan, Secretary / Treasurer
Don Brown - Mary McKain, Council Members

COMMENTS ON THE CITY OF PALMDALE

DRAFT ENVIRONMENTAL IMPACT REPORT

Ref. Pg. 1-4, Para 1, Hillside Development

Two problems, largely ignored by the study, anre impact on downhill property of excessive water runoff resulting from such hillside development; and decreased absorption of rainwater by the land involved. These two jointly contribute to downhill flooding, already surfaced as a problem in the Quartz Hill area.

Ref. Pg. 1-5, Para. 5, Depletion of Ground Water Resources

Historically the average residence in the High Desert uses between 1/2 and 1 acrefoot of water annually, dependent mainly on the weather and temperature. The concept of using conservation of water to provide for water for an influx of new home owners is naive. A viable life sstyle to which the populace is currently acclimatized can not be maintained on a water allocation less than this typical usage. This is desert country. It is highly recommended that, before additional development be encouraged the present populace be forewarned that they will be required to tolerate an austere water-usage mode for the rest of their lives in the High Desert. They should then be given the opportuiity to vote for or against continued development.

Furthermore, a Geological Survey study of 1978 stsates emphatically that the aquifer is being depleted, that replenishment of the water in the aquifer by natural factors is highly improbable, and that the populace supportable by the aquifer is limited. Add to this the probability of recurring droughts, and the fact that no significant additional water could be brounght from northern California within the next 10 to 15 years, even is a decision was made today to bring in usch water. Our planners are making assuptions that plainly do not apply to an environment such as the High Desert.

Pg. 1-6, 1-7 Alternatives Considered

As indicated in the paragraph above, it is naive- even criminal - to assume away the real problem, inadequate water in a desert environment. At this time a no-growth plan should be offered to the populace to vote on, with the understanding that when the state elects to develop water sources for southern California they may again make a decision. The only people who profit form the current approach are developers. The current residences, and those who buy in the new cdevelopments, will be left to face an arid and unpleasant existence, with water-rationing assurred.

Pg. 1-10, Geology

Their are two problems associated with the geological situation. The short-term effect of earthquakes, and the mid- to long term effects. The study takes a naive approch, addressing only the short term impacts. The key problem faced by the valley in case of a major earthquake is, again, related to the availability of water. The aquaduct will not withstand a major quake, will be useless for up to a year and then will operate well below capacity. Water tanks, water lines, well casings and assocaited equipment and facilities will be largely destroyed. No organizationn - goernment or private - has plans to provide for delivering adequate water subsequent to such a quake. What water is delivered will undoubtedly go to the City of Los Angeles, not outlying

communities such as ours. Death from thirst will be the major problem associated with Geology To ignore this is both naive and criminal.

Pg. 1-10, 1-11 Air Quality

Due to unscientific approach to the Air Quallity measurements it is difficult to assess development impact on the local air. At the moment there is no measurement of air quality of the air masses entering the area, with measurement of the same air mass as it leaves the area. The delta between such measurements would be indicative of the actual contribution to air pollution. This delta is being ignored. As a result the contribution of the populace to air pollution in the area is indeterminate. Due to the direction of air flow, and the prevailing winds, the quality of the local air is probably not dependent on the actions taken here, but on the actions taken south and west of us.

Pg. 1-11 Water Resources

The conclusions here are naive, to say the least. With recurrent droughts and the certainty that any major effort to provide water from the north would be completed at the earliest 10 to 15 years from now, we are left with the certainty of water rationing for our residents. Any other conclusion is untenable. If return to the desert life style of yesteryear is acceptable to the populace, with no greenery and the bath only weekly then the conclusions are somewhat realistic.

Pg. 1-12 Biological Resources

Here again we are being naive. Preservation of the various forms of vegetation and animal life in the vicinity of the populace is an environmental pipedream. If people move in, in substanttial numbers, the environment is going to change. Those natural forms that can survive in the vicinity of such a populace will survive, the others will move on or die out. That is nature's way, and the EPA and all the government regulations in the world aren't going to change it. At best we might designate parks or the like for growing representastive desert life forms. Anything else is a sham.

Pg. 1-13 Natural Resources

Mitigation measures referenced have proven, time after time, merely a way to close down the activities they purport to protect. We must be prepared to see these industries die out in our area and the jobs migrate elesewhere.

Pg. 1-13 Land Use

The approach to land use has already surfaced both political and financial problems. Annexation of lands to the city, with residential development thereon, is neither cost effective to the city nor acceptable to outlying rural areas. At this time the Quartz Hill Community is working with both Palmdale and Lancaster to alleviate some of the the problems which have surfaced. They are attempting to better establish the boundaries involved, to modify those bundaries to the advantage of the rural community and the city communities, and to eliminate the islands of city completely cutoff from the servides normally available form those cities. The outlying districts, with rare exception, strongly demand a rural, low-density neighborhood. The cities, based on economics, need commercial centers as a source of revenue. With mutual cooperation both can be achieved to an acceptable level.

Pg. 1-17 Traffic and Circulation

This should be addressed as an Antelope Valley problem, with heavy emphasis on early development of by-pass roads around the cities. Current plans have such arteries as widened existing streets in developed areas, and extremely costly measure. A survey should be quickly conducted to identify alternatives on the edge of current buildups, and property acquired early on at an acceptable price.

Pg 1-17, 1-25 Public Services

This entire section is based on simplistic interpretation of the problems involved. Even now the Fire Districts are complaining of inadequate funding, gangs are forming in the valley and the police protection can do little about it, schools are under both financial and population pressure, economic factors are closing down park and recreation activity, Libraty services are threatened, hospital service continues to climb to costs well beyond the affordable, water resources are plainly inadequate for growth, sewer services are even now borderline at best, solid waste disposal becomes ever more costly, storm drainage is largely accomplished by passing the water to adjacent areas outside the city's area (e. g., Quartz Hill), economics suggests that the power companies will have little incentive to develop additional sources so periodic brown-out are probable., natural gas availability will be curtailed due to economic conditions prevailing in California, quality of elephone service is likely to fall. This entire area needs a much more realistic analysis, keeping in mind the economic mix of the incoming population and the continued migration of industry out of the southern California area.

Pg. 1-25, 1-26 Risk of Upset, earthquake

The risk of a major earthfquake fits a poisson distribution. However the probability of large to medium earthquakes is larger.As mentioned earlier, the real impact may be by way of water loss.

Pg 1-26 Aircraft

Test flight of aircraft is a key activity of the aerospace industry and the Edwards Air Force Base. Test flight is an inherently dangerous process. The probability of accidents is high, with the severity of the accident being indeterminate. As the populated area grows the probability of a serious accident increases proportionately, particularly along the flight paths used for test flights. Test flights include limited tests run after work on the aircraft to full testing programs, and both are conducted in the valley.

Pg. 1-26, 1-27 Hazardous Materials

The only practical way to mitigate the problem is elimination of the industries which produce or use such materials. This will result in more migration of industry to other states and overseas. It is naive to believe that industry will remain if regulatory measures make it non-competitive. Failure to fold in the economic impact of mitigating policies makes it difficult to assess the real results.

State of California

Business, Transportation and Housing Agency

Memorandum

To :

Mr. Tom Loftus
State Clearinghouse
1400 Tenth Street, Room 121
Sacramento, CA 95814

Date : September 25, 1992

File No.:

IGR/CEQA/DEIR
City of Palmdale
DRAFT GENERAL PLAN

From : Wilford Melton - District 7
DEPARTMENT OF TRANSPORTATION

Vic. LA-14-R58.15/64.66

Subject :

Project Review Comments

SCH No.87120908

Caltrans has reviewed the above-referenced document. Based on the information received, we reaffirm the comments made in our letter of July 15, 1992 and have the following additional comments:

We are concerned that the Level of Service (LOS) at buildout shown on Table C-4 of the General Plan, Circulation Element may not be accurate because of the Transportation Demand Management (TDM) Trip Reduction Factor of 15%, 7-8% would be more realistic. We are pleased with the reference on Page C-4 of the Circulation Element to some of the features of the "Antelope Valley 'Sketch' Master Plan of Highways". We would like specific language used to describe the freeway alignment where there is agreement between the City of Palmdale and Caltrans (from SR 14/roadway parallel on the northside and adjacent to Avenue P-8 to Avenue P-50).

Our records indicate the following data for SR-14 which differs from that given in the General Plan on pages C-32 and C-41 and the DEIR on page 3-118:

SR-14 has 6 travel lanes north of Ave. P-8, and 5 travel lanes south of Ave. P-8 through the General Plan Area. Seven travel lanes south of P-8 are planned for the near future.

The Caltrans 1990 Traffic Volumes on SR-14 in the General Plan Area range from 48,000 Average Daily Traffic (ADT) to 52,000 ADT. Volumes for SR-14 from Route 5 to the Kern County Line range from 118,000 ADT at the southwesterly end to 52,000 ADT at the northeasterly end.

On page C-51 of the General Plan, for Palmdale Blvd. our records for the year 1990 indicate the following data:

From 47th St. east to 57th St. east - 4 lanes, divided
From 57th St. east to 120th St. east - 2 lanes

From SR-14 to 30th St. east,	volume=33,000 ADT
From 30th St. east to 47th St. east,	volume=22,000 ADT
From 47th St. east to 70th St. east,	volume=20,000 ADT
From 70th St. east to 90th St. east,	volume=17,000 ADT
From 90th St. east to 120th St. east,	volume=16,000 ADT

On page C-52 General Plan, for SR-138, our records for the year 1990 indicate the following data:

From Ave. T to 90th St. east,	volume=18,500 ADT
From 90th St. to 120th St. east,	volume=16,000 ADT

On page C-6 of the General Plan, Objective C1.5 should also include areas of deficiency within the highway and freeway system created by developments.

If you have any questions regarding this response, please call me at (213) 897-1338.

Original Signed By

WILFORD MELTON
Senior Transportation Planner
IGR/CEQA Coordinator
Advance Planning Branch

cc: Ms. Laurie Lile
City of Palmdale Planning Department
38306 9th Street East
Palmdale, CA 93550

bcc: RHelgeson, HQ Transp Planning/IGR
PHsu, Traffic Ops
FQuon, Proj Dev
SBuswell, Local Coordination
APB File
Chrono

nh\6032

South Coast
AIR QUALITY MANAGEMENT DISTRICT
21865 E. Copley Drive, Diamond Bar, CA 91765-4182 (714) 396-2000

October 5, 1992

Ms. Laurie Lile
City of Palmdale Planning Department
38306 9th Street
Palmdale, CA 93550

Dear Ms. Lile:

Re: Comments on the Draft Environmental Impact Report for the City Of Palmdale General Plan

DISTRICT# LAC920813-01

The South Coast Air Quality Management District (District) is responsible for adopting, implementing, and enforcing air quality regulations in the South Coast Air Basin. The District reviews and analyzes environmental documents for projects that may generate significant air quality impacts, and thereon advises the lead agency.

The District has reviewed the Proposed Draft EIR for the above-mentioned project. Based upon our analysis, the District has determined that several short-term and long-term air quality impacts were inadequately assessed. The Draft EIR does not contain accurate or sufficient information on which to base an informed decision.

Implementation of the proposed General Plan will generate exhaust emissions from construction equipment, vehicles used to transport building materials and equipment to and from each development, and the automobiles of the construction crew, as well as fugitive dust generated during soil movement. The emissions should be quantified to determine significance.

Given the number of vehicles at key intersections, local meteorology, site geometry and site characteristics, sensitive receptors located adjacent to and downwind of intersections could be exposed to significant concentrations of CO. The magnitude of the CO emissions should be modeled for the key intersections.

It is essential that the EIR clarify the regional setting and especially the regional plans that deal with large scale environmental problems such as air quality. The EIR must consider

consistency of the General Plan with all other applicable plans, including:

1991 Air Quality Management Plan

Local Adopted Congestion Management Program (impacts on established levels of service)

Any other regional plans (Regional Growth Management Plan, etc.) that are applicable to the General Plan.

The General Plan should be analyzed for inclusion of the goals, objectives, assumptions and measures for effectiveness contained within the regional plans. The analysis should incorporate other elements of the General Plan which establish policies and action strategies consistent with the requirements of the applicable regional plans.

Although Plant 42 and the Palmdale Regional Airport are not within the jurisdiction of the City, the existing setting should discuss the future background concentrations for the City due to these facilities. Due to the regional nature of these facilities, they could create significant cumulative impacts. These facilities should be included in the cumulative impact analysis.

The District staff is available to assist in correcting these deficiencies in the Final EIR. Before the Draft EIR is certified, these deficiencies should be revised and a copy sent to the District for review. Upon submittal, District staff will review and comment on the revised analysis.

The District appreciates the opportunity to comment on the proposed Draft EIR, and looks forward to receiving a revised analysis prior to the issuance of project approval. If you have any further questions, please contact Connie Day, Program Supervisor, at (714) 396-3055.

Sincerely,

Cindy S. Greenwald
Planning Manager

CSG:CAD:GB

PALMDALE WATER DISTRICT (PWD), Harold M Fones, General Manager, September 18, 1992

(Note: The first several comments relate to the General Plan Public Services Element. Comments related to the EIR begin on page 2, 5th paragraph ("on page 3-197").)

PWD #1 In 1990, Littlerock Creek Irrigation District received 400 acre-feet of their 2,300 AFY state water entitlement, or 17 percent. Palmdale Water District received approximately 8,100 acre-feet (47 percent) of their state water entitlements. AVEK received approximately 41,500 acre-feet of state water in 1990, or 30 percent of their entitlement. The remaining water purveyors in the Palmdale Planning area (Los Angeles County Waterworks, White Fence Farms, Land Projects, Sunnyside Farms, Westside Park, Quartz Hill Water District, and USAF Plant 42) in 1990 supplemented the local groundwater with approximately 23,200 acre-feet of State Water Project water bought from AVEK. This represents approximately 55 9 percent of AVEK's 1990 supply. Although the Planning Area represents a small portion of AVEK's service area, it is densely populated and contains more urban uses compared to most of AVEK's area. Thus, AVEK does not supply water according to the size of a water retailer's service area, but according to the purveyors demand and ability to pay.

See Corrections and Additions #K.

PWD #2 See Corrections and Additions #A.

PWD #3 Please see page 3-204 of the EIR for a discussion of the Palmdale Water District's treatment plant. Also see Corrections and Additions #B.

PWD #4 Please see Corrections and Additions #C.

PWD #5 See Corrections and Additions #D.

PWD #6 See Corrections and Additions #E.

PWD #7 See response to PWD #1 above and Corrections and Additions #K. The analysis on pages 4-172 and 4-173 clearly and adequately describes the potential limits on future water availability, especially with regard to groundwater. Other water purveyors, including the Los Angeles County Waterworks District, are working to increase the use of imported water and decrease reliance on the local groundwater supply. The policies and programs of the General Plan emphasize water conservation, the use of reclaimed water, and funding for new water conveyance and treatment facilities. See also SCAG response #3.

PALMDALE WATER DISTRICT (PWD2), Harold M Fones, General Manager, September 21, 1992.

PWD2 #1 See response to PWD #1 above.

PWD2 #2 Comment noted. No incorrect reference to the word recharge was found in the Public Services section of the EIR.

LOS ANGELES COUNTY PUBLIC WORKS DEPARTMENT (LAPW and LAPW/Waterworks), T A. Tidemanson, Director of Public Works, September 22, 1992.

LAPW #1 Please see pages 4-135 to 4-145 of the draft EIR which discuss the City's objectives, policies, and implementation programs which serve as mitigation measures for growth associated with the proposed General Plan. These include programs that will ensure that appropriate street improvements will occur based upon the needs generated by a development; that environmental review of new development proposals will occur in order to identify impacts and mitigation measures; and that developer fees are collected.

LAPW #2 Section 4 2.9 of the DEIR indicates that a total of 13 roadway segments within the planning area would operate at LOS D, E, or F at buildout of the land uses associated with the General Plan. Eleven of the roadway segments currently operate at LOS C or higher and would be considered significantly impacted. The policies and implementation programs of the Circulation and other General Plan elements would minimize or eliminate most traffic impacts associated with buildout. The city is not currently considering a reduction in land use densities from those indicated in the proposed land use plan.

LAPW #3 Please see Corrections and Additions #F and #O.

(Note: Comments 1 through 6 from County Waterworks in Attachment 1 relate to the General Plan. EIR comments begin with comment 7.)

LAPW/Waterworks #7 Comment noted. However, the information included in this section was based in part on a white paper produced by the Waterworks (Los Angeles County Waterworks Districts Report on Existing and Projected Water Demands and Source of Supply for the Antelope Valley, March 1991). This paper stated that the: "natural recharge from the watershed area varying from a minimum of 40,700 acre-feet to a maximum of 76,000 acre-feet for an average of 58,000 acre-feet per year."

This statement references the DWR (1979 and 1980) and USGS (1967 and 1976) studies. Additionally, the white paper states that the "groundwater basin has a storage capacity of approximately 68 million acre-feet.." and sites the DWR (1979 and 1980).

See Corrections and Additions #Q.

LAPW/Waterworks #8 See Corrections and Additions #G.

LAPW/Waterworks #9a The disagreement exists not only between the sources referenced in the document but between water purveyors of the Antelope Valley, the County Waterworks, and other interested parties. The statement on page 3-63 (paragraph 3, "It should be noted that there is disagreement on these storage and extraction figures.") was added to recognize that there are concerned agencies and individuals who may disagree with the storage and extraction rates adopted by the DWR and DWP. As to the disagreement on extraction figures, please see Corrections and Additions Number #H.

LAPW/Waterworks #9b See Corrections and Additions #I.

LAPW/Waterworks #9c See Corrections and Additions #J.

LAPW/Waterworks #10 Information on the groundwater aquifer varies: a study prepared by Richard Slade in 1989 concluded that water levels in the vicinity of Avenue O and 10th Street West are declining at average rates of 2 5 to 3 6 feet per year; however, a study prepared by C.B. Loundagin in 1990 stated that between 90th Street West and 60th Street West and Avenue I and Avenue G, water levels have risen since 1970 by approximately 53 feet. Based on these site specific studies, it is difficult to draw general conclusions regarding the status of the groundwater table. However, the data tends to support the comment and the paragraph will be revised. See Corrections and Additions #R.

LAPW/Waterworks #11 Please see pages 3-197 to 3-198 for discussion of limits on AVEK's state water entitlement. In calendar year 1991, AVEK purchased 15,725 acre-feet of water from local ranchers with groundwater wells and 7,190 acre-feet from the State Water Project. See also Corrections and Additions #S.

LAPW/Waterworks #12 Revised water consumption factors have been incorporated. See Corrections and Additions #A and #E.

LAPW/Waterworks #13 The Acton Water Treatment Plant was sized to serve residents of Acton. However, because of the proximity of Palmdale Water District facilities, it would be possible to have an interdistrict link for water exchange if capacity is available and the agencies choose to do so.

LAPW/Waterworks #14 See Corrections and Additions #K.

LAPW/Waterworks #15a See Corrections and Additions #L.

LAPW/Waterworks #15b See Corrections and Additions #M.

LAPW/Waterworks #16 See Corrections and Additions #HH.

LAPW/Waterworks #17 See Corrections and Additions #N.

LAPW/Waterworks#18 There are various interpretations of the degree to which groundwater supplies will affect the future of water availability in Palmdale. However, as stated on page 4-55, the potential depletion of groundwater resources will be dependent on the amount of recharge and on the availability of alternative sources. As noted in the comment letter, the groundwater supply is not entirely dependent on the amount

of recharge, but also on imported water supplies The analysis in the DEIR shows that the availability of future water supplies to support the anticipated growth, including both groundwater and imported water, cannot be taken for granted Although the Los Angeles County Waterworks intends to shift 80 percent of its water source to imported water to relieve pressure on the groundwater basin, state water project entitlements cannot be guaranteed if drought cycles continue or occur again. The policies and implementation programs in the General Plan and the DEIR will enable the City of Palmdale to use water more efficiently, coordinate with water purveyors to seek new water supplies, and provide the infrastructure necessary to convey water to the population. Therefore, if imported sources of water are available, no significant impacts to water resources are anticipated with implementation of the mitigation measures. Revisions have been made to the text to clarify the role of imported water. See Corrections and Additions II. See also response to SCAG #3.

LAPW/Waterworks #19 See response to LAPW/Waterworks #10 for a discussion of various estimates of groundwater levels, as well as Corrections and Additions #R. Declining groundwater levels are referenced by Richard Slade, 1989 as noted. See Corrections and Additions T regarding water conservation programs conducted by Waterworks.

LAPW/Waterworks #20 A certain amount of water is necessary to allow sediment to settle, thereby resurfacing the lake beds. In the last several years, the lake beds have not received enough water to allow this resurfacing. Edwards Air Force Base conducted a study to determine the range of adequate volume to resurface the dry lake beds. In addition, a USGS study of rainwater amounts in the Palmdale/Lancaster area will contribute information on the amount of rainwater needed to resurface the lakes. The DEIR notes that, with future development, existing sources of surface water that could aid in resurfacing the lake beds may be channelized, such as the proposed channelization of Amargosa Creek. Water that currently reaches the lake beds (when there are sufficient rains) may be lost, redirected, or otherwise changed. Channelization of Amargosa Creek could increase the velocity of runoff to the lake beds, which may wash soil from the landing strip rather than resurfacing it.

LAPW/Waterworks #21 Groundwater currently provides about half of the water provided by the Palmdale Water District and 40 percent of that provided by the Los Angeles County Waterworks Districts. As such, groundwater is an important component of the future supplies for the City of Palmdale. If drought conditions continue or occur again as the city develops, the availability of state water sources will not be guaranteed. However, because the local water agencies are encouraging the use of imported water, the groundwater levels are not the only determinant of future water supplies. See Corrections and Additions V.

DEPARTMENT OF WATER RESOURCES (DWR), Keith Barrett, Chief Division of Operations and Maintenance, August 17, 1992.

DWR #1 See Corrections and Additions #X.

DWR #2 See Corrections and Additions #W.

COUNTY SANITATION DISTRICTS (SAN), David B Lambert, Project Engineer, August 26, 1992.

SAN #1 Please see Corrections and Additions # O.

SAN #2 The policies and implementation programs presented on pages 4-181 to pages 4-187 on the Draft EIR will mitigate impact to both wastewater treatment facilities and conveyance facilities. In addition, please see Corrections and Additions #P

SAN #3 See Corrections and Additions #Y.

SAN #4 Comment noted. See response to SCAG #2 above.

LOS ANGELES COUNTY FIRE DEPARTMENT (LACFD), John T Haggenmiller, Acting Chief, Forestry Division Prevention Bureau, September 8, 1992.

LACFD #1 Please see page 4-87 of the Draft EIR. This provides a discussion of the Open Space Category of the proposed general plan. Approximately 709 acres of the Planning Area has been designated as open space. The Native Desert Vegetation Ordinance is described on page 4-74.

LACFD #2 The City of Palmdale has adopted landscaping standards (see page 4-74 of the DEIR) that emphasize the use of compatible native plants for newly graded areas and sets guidelines for landscaping and irrigation. These standards, together with the Native Desert Vegetation Ordinance and the Hillside Management Ordinance encourage the use of native and low fuel volume plants in new development and developments requiring revegetation.

DEPARTMENT OF CONSERVATION (SDC), Office of the Director, Deborah L. Herrmann, Environmental Program Coordinator, September 21, 1992.

SDC #1 The City of Palmdale has established Mineral Resource Management policies and has forwarded these policies to the Mining and Geology Board for review and comment. The policies have been revised according to the comments received and have been resubmitted to the Board for review and approval. Pages ER-9 through ER-11 of the General Plan describe these policies.

SDC #2 Comment noted. Page 4-37 of the DEIR lists some of the policies that would restrict development within the San Andreas Rift Zone. In addition, pages 9-35 through 9-50 describe the anticipated environmental impacts that would result from implementation of the Low Density Land Use Plan Alternative, which would designate most areas within the rift zone as open space or rural residential uses.

GOVERNOR'S OFFICE OF PLANNING AND RESEARCH (OPR), Christine Kinne, Acting Deputy Director, Permit Assistance, September 21, 1992.

OPR #1 Statement of close of review period. No response required.

THE RESOURCES AGENCY (RES), State of California, September 18, 1992

RES #1 Statement of distribution of DEIR. No response required

CITY OF LANCASTER (LAN), Susan J Barnett, Environmental Coordinator, September 22, 1992

LAN #1 The roadway classification for Avenue L west of 90th Street West is, according to the proposed Palmdale General Plan, a regional roadway. The exhibit showing highway classifications (Exhibit C-1 in the General Plan) is incorrect. The major and minor roadway classifications for 90th Street West, 50th Street West, 20th Street East, 80th Street West, and 70th Street West are based on current traffic volumes that warrant these classifications. There is a distinct decrease in traffic volumes at Avenues L and M because of commonly used commuter routes to and from the USAF Plant 42. Traffic volumes on Avenue M from 30th Street West to Challenger Way warrant the regional classification. Policy C1 1 2 of the proposed Circulation Element indicates that the city will cooperate with Caltrans and other affected jurisdictions to establish and adopt standards for regional expressways and Policy C1 8.2 states that the city will coordinate with other jurisdictions to integrate circulation networks. The City of Palmdale engineer will review roadway classifications as development is proposed to determine whether the classifications and right-of-way reserved are appropriate. The engineer will also review information from other jurisdictions, including the City of Lancaster to determine the appropriate classifications.

LAN #2 Comment noted. See Corrections and Additions Z.

THE CITY OF SANTA CLARITA (SC), Lynn M. Harris Deputy City Manager, September 23, 1992.

SC #1 The traffic model for the proposed Palmdale General Plan assumes an average or typical density for residential and non-residential land uses. Table 4-10 on page 4-94 of the DEIR indicates both the maximum and typical densities for all land uses proposed. For several categories of residential land uses, the maximum and typical densities are the same. the typical densities for mobile home parks, multi-family residential and the highest density single family residential categories are lower than the maximum. current County of Los Angeles plans and the updated Lancaster General Plan were used to determine the amount of cumulative development.

SC #2 The City of Palmdale would support improvements to regional transportation corridors such as SR-14. The city does not have jurisdiction over this, roadway, and therefore did not identify SR 14 for improvements in the General Plan. Caltrans indicates (letter dated September 25, 1992) that SR-14 currently has 6 travel lanes north of Avenue P-8 and 5 travel lanes south of Avenue P-8 through the planning area. Caltrans further indicates that 7 travel lanes are planned for SR-14 south of Avenue P-8 for the near future.

SC #3 Bouquet Canyon Road is identified on Table 3-17 and Exhibit 4-1 (Exhibit 4-1 corresponds to Exhibit C-1 of the General Plan) as a secondary roadway; a brief discussion of this roadway also appears on page 3-126. However, like several other

secondary arterials, Bouquet Canyon Road was not listed in Table 3-19 and Table 4-13 Although not specifically listed, the roadway was included in the citywide traffic model prepared by DKS Associates A model run conducted April 16, 1992 indicates that, at buildout of the General Plan, Bouquet Canyon Road would carry between 8,300 and 9,000 vehicle trips per day in the vicinity of the Palmdale planning area. Assuming a capacity of 12,000 average daily trips for the two land roadway, the volume/capacity ratio would range from 0 69 (LOS B) to 0 75 (LOS C). Therefore, the model indicates that this roadway would operate at acceptable levels of service in the vicinity of the planning area. Model run data is available for review at the Palmdale Planning Department.

SC #4 A number of objectives and policies in the proposed Circulation Element would reduce commuter trips from Palmdale to the San Fernando Valley and Los Angeles. Additional policies would reduce local trips. These policies include TDM Plans, ridesharing, and requiring residential developments to contribute toward city programs to reduce trips. Public transit options within the planning area would also be promoted, including bus, rail, and bicycle facilities and routes. SCAG staff has determined that Palmdale's policies and implementation plans meet these goals (see response to SCAG #4, #16, and #17). Future development projects must comply with the County's Congestion Management Plan; impacts to the regional CMP network must be mitigated in accordance with the Plan. The combination of the proposed short-term and long term transportation and land use policies contained in the proposed General Plan will reduce VMT and minimize significant transportation impacts.

SC #5 See responses to SCAG #4 and SCAG #15.

RESPONSE TO SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS (SCAG), Arnold Sherwood, Director, Forecasting and Monitoring, September 21, 1992.

SCAG #1 The goals, objectives, and policies of the proposed General Plan provide a comprehensive plan that will provide the infrastructure needed for new development in a phased manner as growth occurs. Implementation of the city's policies for land use, transportation, and public services and utilities will limit or prohibit new development until the appropriate infrastructure is in place.

SCAG #2 Please see pages 4-181 to 4-184 of the Draft EIR. These pages list the policies from the proposed Public Services element of the General Plan to mitigate impacts on the sewer system. These policies establish provisions (1) for funding and to implement improvements prior to project development (PS1.1.3, PS1.1.4,PS1.1 5, PS1.1 6, PS1.4.3, PS1.4.4, PS2.2.2); (2) to design the infrastructure system to meet the ultimate demands of the planning area in a timely manner (PS1.2.4, PS1 2.5), PS1.3.5, PS1.4.7); and (3) for the continual evaluation of the sewer system through the coordination of the City of Palmdale and Los Angeles County Sanitation District (PS1.5.3, PS2.2.1, PS2.2.3, PS2.2.5). In addition, pages 4-184 to 4-187 describes the implementation programs that will reduce impacts to sewer services, including CEQA review, data collection for service providers, capital improvement programs, facility master planning, and water conservation and reclamation techniques.

As discussed in Corrections and Additions # O, the local sewage treatment plants are operating near capacity However, the Sanitation Districts are planning to expand the capacities of the Palmdale Water Reclamation Plant and the Lancaster Water Reclamation Plant to 15 mgd and 16 mgd, respectively, by 1994 The Sanitation Districts charges the developer a $1,100 per dwelling unit sewer connection fee which is used to fund incremental treatment plant expansions. This fee is periodically increased to accommodate growth It has been the District's policy and practice to expand existing treatment facilities, or to purchase land for new treatment facilities, in advance of development. The proposed General Plan policies would support and encourage this practice. The policies and approach of the General Plan were determined to be consistent with the approach set forth in the 1991 and supportive policies in the 1989 Growth Management Plan (GMP) in a memo dated September 22, 1992 and at a meeting (October 1, 1992) with City of Palmdale staff

SCAG #3 As illustrated on pages 4-174 to 4-179, the City has proposed multiple policies and implementation programs which will ensure adequate funding for new water conveyance and treatment facilities as well as improvements to existing systems Additionally, the policies and programs will require that onsite and offsite improvements needed to serve proposed developments are in place prior to occupancy. Thus, a development will not occur within the Planning Area unless adequate water system capacity exists to support the project. Data indicates that there is currently not enough water to serve the City of Palmdale and planning area at buildout of the General Plan, as is true for most localities in Southern California. AVEK, the source of much of the planning area's water, has projected that water resources will be sufficient to support a population of approximately 532,000 in the Antelope Valley in 2010, assuming full entitlement from the state water project Population projections in the updated Lancaster General Plan and the proposed Palmdale General Plan anticipate a combined population of 560,000 within the two planning areas. Los Angeles County Waterworks Districts suggests a ratio of 80 percent imported water to satisfy demand in the Antelope Valley. The population served by AVEK's imported water would serve approximately 95 percent of the projected population; the balance would be served by groundwater resources. Therefore, water service in 2010 will be sufficient to serve the needs of the projected population.

However, as stated in the DEIR (see pages 8-7 and 8-13), if adequate supplies of water are available from the state water project, if water conservation and recharge programs are successful, and the phased infrastructure program is followed, no significant impacts are anticipated. Otherwise, alternative sources of water would need to be developed before additional development can be accommodated. If these measures are not successful, a significant cumulative impact on water resources will occur.

SCAG #4 The objectives of the Palmdale General Plan are consistent with the policies of the 1989 GMP and with the approaches contained in the 1991 Air Quality Management Plan as determined by SCAG staff (Local Assistance and Compliance Committee). Several policies in the proposed Circulation Element (C1.8.1, C1.8 2, C2.1.5, etc.) require coordination with other jurisdictions and agencies to evaluate and propose solutions to regional transportation issues, to integrate circulation networks, and comply with the County's Congestion Management Plan (CMP). Implementation programs that contribute to these goals include the development review process,

CEQA review, compliance with the CMP, capital improvements, a transportation demand management ordinance, and inter-agency coordination See also responses SCAG #2 and #3 regarding the phasing of public utilities with development

SCAG #5 As noted above in response SCAG #4, the City of Palmdale's policies and implementation programs, which serve as the mitigation measures for growth associated with the General Plan, provide for coordination with other jurisdictions, including the City of Lancaster. The goals and objectives of the proposed General Plan are consistent with those of the GMP, as is the General Plan update for the City of Lancaster, and, therefore, there is no need to enter into a separate agreement with Lancaster. The proposed Palmdale General Plan will allow for the development of a balanced community with infrastructure phased with new development to reduce the local and regional impacts of growth.

SCAG #6 See response to SCAG #2 above. The planned expansion of the Palmdale and Lancaster water reclamation plants will provide sufficient capacity for development over the next several years. Through the policies and implementation programs that tie new development to the provision of infrastructure, the proposed General Plan acknowledges that some development may be delayed until this capacity is available. The County Sanitation Districts has indicated that the capacity of conveyance and treatment facilities will be limited to levels associated with approved growth identified in the adopted GMP and AQMP.

SCAG #7 See response to SCAG #3, above.

SCAG #8 The proposed Circulation Element and DEIR describe the improvements proposed to the local circulation system that will reduce the amount of local traffic that uses SR 14 (Antelope Valley Freeway). Traffic projections from the Lancaster General Plan were incorporated into the traffic model for the Palmdale General Plan. Development of the traffic model, future roadway improvements, and future levels of service are described on pages 4-118 through 4-130 of the DEIR. The model assumes 4 lanes in each direction on SR-14 at General Plan buildout. The plan recommends regional improvements to expand SR-14 to 5 lanes in each direction between Avenue L and Crown Valley Parkway. In addition, a new east-west freeway and a new north-south freeway were assumed. The traffic model output indicates anticipated volumes of from 82,000 to 153,000 vehicles per day on SR 14 within the planning area, resulting in levels of service from A to C. As buildout will not occur for a minimum of 50 years, these projections may change with the next General Plan update.

SCAG #9 The City of Palmdale, and the General Plan and DEIR, acknowledge that the policies and procedures of the 1991 AQMP apply to the Antelope Valley. As stated on page 4-105 of the DEIR, buildout of the General Plan at typical (expected) densities would result in development of 139,205 housing units in the planning area. At the 1992 average household size of 3.17, these units would result in a population at buildout of approximately 441,280 persons. SCAG staff determined that the goals, objectives, and policies of the General Plan are consistent with the approached in the 1991 AQMP and the 1989 GMP (staff memo dated September 22, 1992). The discussion of air quality impacts at buildout is based on this population figure and projected vehicle trips numbering 3,528,026 (see page 4-44 of the DEIR). The

DEIR states that the anticipated increase in mobile and utility emissions resulting from development associated with the General Plan would be significant (see pages 4-42 and 4-47 of the DEIR). Although the policies and implementation programs would substantially reduce the increase in emissions, the increase cannot be mitigated to a less than significant level due to anticipated population and development increases.

SCAG #10 Comment noted.

SCAG #11 Comment noted. The City of Palmdale will prepare an Air Quality Element to coordinate and support the goals of the 1991 AQMP. At this time, trip lengths used in the UREMIS model (EMFAC7 analysis) will be adjusted, as necessary, to reflect current conditions in the Antelope Valley. With the development of commercial and industrial uses within the planning area, and the availability of employment opportunities within the area, the average trip lengths are expected to decrease for home to work trips. See Corrections and Additions #FF.

SCAG #12 Comment noted. The "Carbon Monoxide Protocol" will be incorporated in the city's Air Quality Element which will govern the analysis of transportation and other projects within the city.

SCAG #13 The DEIR presents the calculated mobile emissions that would result from the anticipated 3,528,026 vehicle trips at buildout of the General Plan. The emissions model incorporates a trip length for each vehicle trip, resulting in a total VMT of 20,317,195 at buildout of the planning area. See Corrections and Additions #GG.

SCAG #14 The City will incorporate transportation control measures in the city's Air Quality Element. The City of Palmdale is currently implementing TCM 2a) employer rideshare and transit incentive and TCM 2f) HOV facilities. The city will also implement TCM 4) auto use restriction, through the adoption of an Air Quality Element. See Corrections and Additions #FF.

SCAG #15 Comment noted. The policies and implementation programs of the Environmental Resources Management Element support the goals of the 1991 AQMP. In addition, the City of Palmdale will prepare an Air Quality Element. See Corrections and Additions #FF.

SCAG #16 Page 4-51 of the General Plan DEIR states that the city will prepare and implement a trip reduction ordinance to reduce mobile source emissions. The preparation of a trip reductio ordinance was also agreed to during a meeting with SCAG and city staff.

The combination of the trip reduction ordinance the other air quality policies and implementation programs proposed in the General Plan, and the preparation and implementation of an Air Quality Element/Action Plan, will reduce the air quality impacts of development to the maximum extent feasible. As stated on page 4-55, due to the amount of vacant land available for development within the planning area, and the population increase expected to result from this development, the increase in air emissions from General Plan buildout cannot be mitigated to a less than significant level.

SCAG #17 In a SCAG staff memo dated September 22, 1992, and in a meeting with city staff, SCAG staff determined that the Palmdale General Plan and DEIR are consistent with and incorporate the major objectives of the GMP and 1991 AQMP See also SCAG response #16 above

SCAG #18 Subsequent to the drafting of this comment letter, and as indicated in SCAG responses #16 and #17 above, SCAG staff determined that the General Plan and DEIR were consistent with the goals and approaches of the 1991 AQMP and the 1989 GMP. The DIER acknowledges that buildout of the proposed land use plan would result in significant increases in the levels of CO, NOx, and ROG due to the large amount of currently undeveloped land. However, with the implementation of the recommended policies and programs, these increases would be mitigated to the maximum extent feasible.

SCAG #19 The most recent emissions factor model will be used to update the CO analysis for the planning area during preparation of the Air Quality Element, as will current existing air quality data from AQMD. Negative impacts from dust emissions are described on page 4-49 of the DEIR. Section 4.2.9 of the DEIR describes the future proposed roadway network and future projected levels of services for major roadway segments. This section shows that under future buildout conditions, 13 roadway segments would operate at LOS D, E, or F (see also Table 4-13). The transportation and air quality sections of the DEIR discuss cumulative air quality impacts resulting from development of the planning area, and discuss the policies and implementation programs proposed to mitigate these impacts. Page 8-6 of the DEIR states that air quality impacts that will occur in the region as a result of General Plan and cumulative development, will result in air quality impacts that cannot be mitigated to a less than significant level.

SCAG #20 Policies and programs in the transportation section (Section 4.2.9) provide for the phasing of future development with local and regional infrastructure. SCAG staff determine (memo dated September 23, 1992) that the General Plan's goals, objectives, and policies would "efficiently and equitably provide infrastructure for new development in accordance with the objectives of SCAG's GMP...(and) is clearly consistent with approaches set forth in the 1991 AQMP and supportive policies in the 1989 GMP."

SCAG #21 Housing costs and ability to pay, based on current and projected employment, is described on pages H-60 through H-66 of the Housing Element. As described in Section 4.2.8 of the DEIR (pages 4-104 through 4-114), housing costs in the Palmdale area are generally less expensive than those in surrounding areas because of the availability of large amounts of undeveloped land. Currently, this results in a housing-rich situation within the planning area and mean travel time to work of 41 minutes, compared to the county-wide mean travel time of 26 minutes. However, the proposed land use plan and the policies and implementation programs in the General Plan will provide for a transition to a self-sufficient community with a balance of jobs and housing, and eventually to a jobs-rich area. Future jobs opportunities within the planning area are anticipated to be in the industrial and commercial sectors through 2010 (page H-41 of the Housing Element).

SCAG # 22 See response to SCAG #2 above.

SCAG #23 See SCAG response #14 above.

ANTELOPE VALLEY ARCHAEOLOGICAL SOCIETY, INC. (AVAS), Mark Campbell, President, September 19, 1992.

AVAS #1 Comment noted. The policy provides adequate provision for new studies pursuant to Appendix K of the CEQA Guidelines. No changes are recommended to the policy at this time. See also responses AVAS #2 and #3.

AVAS #2 The sensitivity map will be prepared by city planning department staff, with input from the agencies and organizations listed in Table 1, Archaeological Resources, of Appendix A of the DEIR. These organizations include the UCLA Archaeology Information Center, the Native American Heritage Commission, the Antelope Valley Archaeological Society (see Corrections and Additions #DD) and archaeological/historical information maps. The map will be refined, based on the map currently in use.

AVAS #3 Comment noted. As noted in response AVAS #1, the policy in question provides adequate provision for new studies pursuant to Appendix K of the CEQA Guidelines. City staff will have some discretion in requiring studies for projects at sites that are "reasonably suspected" of containing resources. This will reduce the likelihood of unnecessary studies for small, infill projects and those not likely to contain resources, but provide for studies in areas where resources are reasonably anticipated to occur.

AVAS #4 The areas shaded to indicate a moderately high probability of containing archaeological resources are identified as such because of the wide distribution of known prehistoric sites and the topography of the area (including dry washes and channels, sandy plains, and alluvial slopes). The rift zone is thought to have a high probability of additional sites because of the availability of water and food resources, and based on the number of sites already recorded in this zone. However, as noted in the comment and on page ER-60 of the proposed Environmental Resources Element, much of the planning area has not been surveyed for the presence of cultural resources. See Corrections and Additions AA.

AVAS #5 Comment noted. This recommendation will be considered when requirements for archaeological surveyors are determined.

AVAS #6 Table H-1, a listing of potential historic structures within the Palmdale planning area, was obtained from the West Antelope Valley Historical Society and may not consider all potential historic structures within the planning area. See Corrections and Additions #BB.

AVAS #7 Comment noted. See Corrections and Additions #CC.

AVAS #8 Page 3-87 of the DEIR notes that the golden eagle is a California Department of Fish Game species of special concern. As noted in the DEIR, the golden eagle is a wide ranging species that typically nest on isolated rocky crags. The species is sparsely distributed and may occasionally forage over the Palmdale planning area.

AVAS #9 The full implementation of mitigation measures, in the form of the objectives, policies, and implementation programs in the Environmental Resource Element, will reduce impacts to a less than significant level The city recognizes that some resources may be lost or damaged through development of the planning area, but these losses will be minimized by full implementation of the mitigation measures.

AVAS #10 See Corrections and Additions #DD.

LEONA VALLEY TOWN COUNCIL (LVTC), M. Johnstone, Vice President, August 27, 1992

LVTC #1 Bouquet Canyon Road forms a portion of the western boundary of the City of Palmdale planning area. Maps in the General Plan will be modified, as necessary, to reflect this.

LVTC #2 See response SC #3, above.

LVTC #3 Roadway improvements identified in the Circulation Element and described in Section 4.2.9 (beginning on page 4-115) of the DEIR identify Elizabeth Lake Road as a major arterial from 100 Street West to 25th Street West and as a regional arterial from 25th Street West to Division Street. As discussed on page 4-120, a major arterial will have a design width of 104 feet, allowing for 6 through lanes and a median, or a design width of 114 feet, to allow for 6 through lanes, a median, and bicycle lanes in each direction. Elizabeth Lake Road currently has 2 through lanes west of 25th Street West. The roadway classifications and design are based on traffic volumes provided by DKS. Model run data is available for review at the Palmdale Planning Department.

LVTC #4 The developed portions of Leona Valley are not included within the Palmdale planning area. Those portions of Ritter Ranch are within the sphere of influence; therefore this area must be included in the planning area.

LVTC #5 Current and future anticipated traffic volumes indicate that Elizabeth Lake Road be classified as a major arterial.

LVTC #6 The City of Palmdale General Plan does not set land use designations for Leona Valley. However, implementation program G, coordination of land use decisions (page 4-98 of the DEIR) will implement coordination with jurisdictions and homeowners' groups outside the planning area to review proposed development for compatibility and consistency with existing adjacent development.

LVTC #7 See LVTC response #6. Characteristics of the Leona Valley are considered in each section of the DEIR (biological resources, natural resources, earth, risk of upset, etc.) that would interface with the planning area. The area is often included in the descriptions of the San Andreas Rift Zone, the southwestern planning area, and hillside residential areas.

LVTC #8 At the present time, the sale of safe and sane fireworks is legal within the City of Palmdale. No distinction is made between rural and urban areas.

LVTC #9 The state Local Agency Formation Committee has established the sphere of influence for the City of Palmdale General Plan. The sphere of influence extends west to 80th Street West. Most residents of Leona Valley are located west of 80th Street West, outside the city's sphere of influence. The City understands and respects the community's wish to remain outside the sphere of influence.

LVTC #10a See SCAG response #3 regarding water supply for the Antelope Valley in 2010. If no water was available from the state water project, it is unlikely that the aquifer could support the valley's water demand for a sustained period. However, mitigation measures provide for the seasonal storage of groundwater, water conservation measures, and the use of reclaimed water. Future development will be tied to the provision of water service; therefore, development will not be permitted unless the capacity to serve the development exists. In this manner, significant impacts to water facilities will be mitigated to less than significant levels.

LVTC #10b Future plans of water purveyors will emphasize the use of imported water to reduce reliance on local groundwater. There is no plan to increase groundwater supplies 8.5 times; studies for this have not been conducted. As indicated in Correction and Addition #J, the aquifer has the ability to hold 68 million acre-feet of water. As indicated on page 3-63 of the DEIR, there is approximately 13 million acre-feet of storage capacity within the aquifer. Pages 4-59 through 4-63 list policies and implementation programs to minimize the impacts of development on water resources. These policies and programs include water conservation and reclamation, maximizing groundwater recharge, and coordination with local water agencies to monitor groundwater levels, state water allocations, and development approvals, to ensure that development does not outpace long-term water availability.

LVTC #11 The attached comments (dated February 1990) address a previous version of the proposed General Plan and do not address the General Plan DEIR. The currently proposed General Plan has been substantially changed since 1990.

ANTELOPE VALLEY BUILDING INDUSTRY ASSOCIATION (BIA), Richard H. Norris, Executive Director, September 23, 1992.

BIA #1 The bulleted items on page 4-40 list various measures recommended by the South Coast Air Quality Management District for possible inclusion in the city's Transportation Demand Management Ordinance. Subsidized parking without subsidized transit can encourage employees to drive in single-person vehicles; subsidized transit can encourage employees to use public transit systems and reduce the vehicle miles travelled in the planning area, the main goal of this ordinance.

BIA #2 As stated on page 4-51, various measures may be included in the trip reduction ordinance, which the city has agreed to prepare and implement as recommended by SCAG. Some of the measures would require the payment of fees if a new development increases the number of vehicle miles travelled (VMT) in the region. The payment of fees would be required if other trip reduction measures would not mitigate the development's contribution to regional VMT and are necessary to comply with the goals and requirements of the Air Quality Management Plan.

BIA #3 Policy ER5 6.1, one of the mitigation measures listed to reduce the impacts of future development on air quality, directs that new developments provide and implement plans to reduce vehicle miles travelled (VMT) by persons who will use that development. This will generally be accomplished through the environmental review process When a new development is proposed, an estimation of the number of trips generated by that development will be made and reviewed by city staff. Measures will be incorporated into the design and operation of the development, as directed by the city, to reduce the VMT associated with the development. Other policies and implementation programs contained in the General Plan, such as encouraging alternative work schedules and requiring transportation demand management plans, will apply to existing development.

BIA #4 Comment noted. The General Plan and DEIR describe the sensitive plant and animal species determined by federal and state agencies and the likelihood of their occurrence within the planning area.

BIA #5 Exhibit 3-18, Area Vegetation, presents the type of vegetation that dominates each portion of the planning area. Flood zones are presented on Exhibit 3-15 and the location of mineral resources and quarry operations are presented on Exhibit 3-19

BIA #6 The City of Palmdale has been designated by the California Department of Fish and Game as a zone 2 and zone 3 area for the desert tortoise. However, this designation is no longer used. The city is participating in the preparation of the West Mohave Habitat Coordinated Management Plan for the desert tortoise and Mohave ground squirrel with the Bureau of Land Management and California Fish and Game.

BIA #7 The paragraph on page 3-88 describes the potential for the presence of the Mohave ground squirrel within the planning area, based on the results of studies conducted in the area.

BIA #8 See Corrections and Additions #EE.

The balance of the BIA comments address the General Plan. City planning staff met with representatives of the Antelope Valley BIA on October 6, 1992 to discuss these issues. Many of the BIA comments were resolved at this meeting, and city staff will continue to discuss proposed policies and programs with the BIA. The discussions held at the October 6, 1992 meeting do not affect the intent of city policies, nor their ability to mitigate the impacts of development associated with buildout of the General Plan.

WAYNE S. SQUIRE/MARY G. SQUIRE (WMS), September 8, 1992.

WMS #1 The comment letter addresses the rezoning of property and does not address the DEIR on the General Plan. Staff will pass the comment letter to the City Council to consider in land use deliberations.

CHARLES BRINK (CB), September 23, 1992.

CB #1 Comment noted The impacts of development associated with the proposed General Plan, and the mitigation measures recommended to minimize these impacts, are described in section 4 2 of the DEIR.

CB #2 All new construction within the planning area must meet seismic safety standards established by the city and the state to reduce earthquake hazards to acceptable levels. See mitigation measures on page 4-32 through 4-39.

CB #3 The Palmdale General Plan was determined to be consistent with regional growth plans adopted by SCAG. See mitigation measures on pages 4-51 through 4-55, which include measures to reduce the total vehicle miles travelled within the planning area.

CB #4 See SCAG response #3, and LVTC responses 10a and 10b. Future development will not be allowed until public services and utilities, including water, can be provided.

CB #5 Mitigation measures for impacts on natural resources are found on pages 4-78 through 4-82, measures to minimize impacts on biological resources are listed on pages 4-73 through 4-75, and those to mitigate land use impacts are noted on pages 4-97 through 4-100.

CB #6 Transportation impacts and mitigation measures are described in Section 4.2.9. The sphere of influence boundaries were established by the state Local Agency Formation Committee (LAFCO). At the present time, the City plans to only expand to the sphere lines. The full proposed General Plan and DEIR were available for review at the City of Palmdale on August 10, 1992. No extension in review time has been made.

EXHIBIT C

CORRECTIONS AND ADDITIONS TO THE EIR TEXT

Through the course of Planning Commission and Council public hearings, several policies and implementation measures, which are used in the EIR as mitigation measures, have been revised. Below, these revised policies are listed. For consistency between the EIR and the General Plan, the EIR and Mitigation Monitoring Program will be amended to reflect the revised language wherever these policies appear.

SAFETY ELEMENT:

Policy S1.1.7: Restrict location of utility lines, whether above or below ground, within an appropriate distance from active fault traces, as determined by geotechnical investigation and approved by the City. Utility lines crossing active fault traces should be specifically designed to withstand the expected movement of the earth in these locations. Utility lines as defined here would include, but not limited to, electricity, water, natural gas, and sewer.

Policy S1.2.1: Require that new development should not be exposed to flood hazards or contribute to an existing flood hazard, in accordance with the City's Floodplain Management Ordinance and related criteria within the City's Engineering Design Standards.

Objective S2.6: Minimize exposure of residents to other man-made hazards, to the extent feasible.

Policy S2.6.1: If, in the future conclusive evidence links the ELF fields associated with electrical distribution lines, electrical distribution stations, or transformers with deleterious health effects, develop standards for construction, building setbacks, and/or land use restrictions for those areas impacted by hazardous ELF fields.

Policy S4.1.3: Require that properties within the City are maintained in a condition free from potential risks to public health, safety and welfare.

Safety Implementation Measure A22: Building and Seismic Safety Codes. The City will enforce its building and seismic safety codes which provide minimum standards for the construction of habitable structures, and ensure the structural stability and safety of all development. The Building and Safety Department reviews all construction plans for compliance with codes prior to development. The City's Building and Safety Department responds to citizen concerns regarding unsafe structures and enforces building codes, and the City's Code Enforcement Section requires abatement of all other code violations.

Safety Implementation Measure B1: Standards for Construction and Development. Construction and development standards contained in the Zoning and Building Codes include:

- Engineered construction must comply with uniform building code requirements for seismic zones.
- Emergency facilities, and sites with explosives and toxic materials, must adhere to more restrictive seismic safety construction.
- Emergency facilities shall be set back from known hazard areas (earthquake fault zones, aircraft crash zones, and flood plains).
- Critical use structures must conduct geologic/seismic hazards studies before construction, and implement appropriate construction techniques.

ENVIRONMENTAL RESOURCES ELEMENT:

Policy ER2.1.1: The following broadly defined areas, shown on the Overlay Map and Exhibit ER-5, will be designated as a Significant Ecological Area (SEA) overly on the General Plan Land Use Map: Big Rock Wash, Little Rock Wash, Ritter Ridge, Portal Ridge and Alpine Butte. Biological surveys should be performed to determine the nature and extent of their ecological significance prior to any approval of new developments within the overlay area. Any development permitted in these areas must consider significant environmental resources and preserve environmental resources to the extent feasible.

Policy ER2.1.5: Preserve and maintain significant Joshua tree woodlands and other significant habitat areas. Early in the review of development projects, the feasibility of preserving any significant vegetation on-site should be examined.

Objective ER4.3: Maintain and further the City's commitment to long-term water management within the Antelope Valley by promoting and encouraging planning for the conservation and managed use of water resources, including groundwater, imported water, and reclaimed water.

Policy ER4.3.1: Assess the feasibility of utilizing reclaimed water for landscape irrigation on a city-wide basis. Factors to be considered include the potential quantities of reclaimed water as determined by the Sanitation Districts, and costs associated with developing infrastructure and delivery systems to facilitate utilization. Within those areas in which it is determined to be feasible to utilize reclaimed water, consider establishment of an ordinance requiring installation of secondary water delivery systems to service landscaped areas.

Policy ER4.3.2: Work with local water purveyors to assess the potential for capturing local run-off and utilization of imported water (water banking) for groundwater recharge within the Planning Area; through the land use planning process, ensure that important recharge areas are retained for that use.

Policy ER4.3.3: Continue to seek out long-range water management techniques as new technology is developed; promote implementation of systems which are feasible and appropriate to the Planning Area.

Policy ER4.3.4: Encourage residents and businesses to recycle water where feasible, and where water recycling does not result in health and safety concerns, within their homes and/or businesses.

Policy ER4.3.5: Participate in regional efforts to retain imported water allocations and seek out other sources as they become available.

Policy ER5.6.1: Ensure that new development reduces project-related vehicle miles travelled to the maximum extent provided by law.

Objective ER6.1: Recognize the regional importance of the classified and designated mineral deposits within Palmdale's Planning Area (as described in Special Report 143, Part V, Classification of Sand and Gravel Resource Areas, Saugus-Newhall Production-Consumption Region and Palmdale Production-Consumption Region, and Designation Report No. 6, Designation of Regionally Significant Construction Aggregate Resource Areas in the Saugus-Newhall and Palmdale Production-Consumption Regions and as shown on Exhibits ER-1A and ER-1B) and discourage encroachment of incompatible land uses which could threaten the long-term viability of sand and gravel mining and processing operations in the Little Rock Wash area.

Policy ER6.1.2: Prohibit incompatible land uses within the MRE designation. Examples of incompatible land uses include, but are not limited to, residential, some public facilities, intensive industrial and commercial.

Policy ER7.1.6: Cooperate with private and public entities whose goals are to protect and preserve historic landmarks and important cultural resources.

Environmental Resources Implementation Measure D.2: To reduce mobile source emissions, the City will implement a trip reduction ordinance. The ordinance should consider the umber of vehicle miles travelled (VMT) that are estimated to be generated from and individual development project, in accordance with the requirements of South Coast Air Quality Management District, Los Angeles County Transportation Commission (LACTC) and other affected agencies.

Environmental Resources Implementation Measure H: Mining Standards. In accordance with the provisions of the Surface Mining and Reclamation Act (SMARA) and subsequent amendments, the City of Palmdale has adopted an ordinance implementing mineral resource management policies. Mining within designated aggregate resource areas requires approval of a conditional use permit (CUP) before operations begin. The CUP shall be granted for a period of time as specified by the Planning Commission with renewals approved by the Planning Commission. In addition, renewal of the CUP is dependent on the success of proposed mitigation measures for residual hazards. The ordinance also requires a reclamation plan for returning the site to reusable condition following cessation of mining operations. State environmental regulations require ongoing monitoring of operations to ensure adequate mitigation of adverse impacts.

The City has developed standards for mining activity in the Planning Area in conjunction with the Mineral Resource Extraction (MRE) land use (Exhibit LU-2). Mineral resource extraction is appropriate in these areas, as along as it complies with the following conditions:

1. Approval of a reclamation plan in compliance with the state Surface Mining and Reclamation Act (SMARA), as amended, and City regulations.

2. Standards for development in areas adjacent to the MRE designations require that all new residential, commercial or industrial development provide buffering from quarrying operations that will conform to policies contained in the General Plan relating to noise, dust control, traffic or other impacts identified through the environmental review process. Where the Mineral Resource Extraction (MRE) land use designation is adjacent to existing or approved but unbuilt development, the responsibility for buffering impacts of quarry operations shall be upon the quarry operator. Where the MRE designation is adjacent to vacant land which has no approvals for development, the responsibility for buffering shall be shared by the future developer of the vacant property. In all cases, concentrated noise generators shall require buffering from the boundaries of the MRE designation to mitigate noise impacts on adjacent uses.

3. One of the Mineral Resource Extraction area covers a major groundwater recharge area and there exists a potential for groundwater contamination; thus, mining is not permitted below the groundwater level or to a level as determined through environmental analysis.

4. Noise impacts must be minimized by ensuring that the noise level at the property line is 65 dBA CNEL or less, when noise-sensitive uses or designations abut the quarry.

5. Mining areas must be fenced with a 6-foot view obstructing fence, wall, or landscaped berm along public streets or adjacent to residential areas.

6. Use of asphalt and petroleum-based materials, or other operations which may impair groundwater quality, in the Mineral Resource Extraction designation are prohibited, unless substantial evidence is provided to demonstrate that such uses will not have significant impact on groundwater or other resources.

7. Safety measures for routine operations shall be established prior to permit approval.

8. As the Little Rock Wash MRE area may potentially contain sensitive ecological habitat, and has been indicated on the General Plan Land Use map as Significant Ecological Area (SEA) overlay zone, appropriate steps shall be taken to identify, and protect any significant flora and fauna.

9. All mining operations in the Little Rock Wash area shall incorporate flood plain management provisions into their operations.

Exhibit ER-1A is added to the EIR as Exhibit 3-19A; Exhibit ER-1B is added to the EIR as Exhibit 3-19B.

PUBLIC SERVICES ELEMENT:

Policy PS1.1.4: Require that adequate provisions are made, as approved by the City, for maintenance of public improvements or any facility or land to be maintained by the City prior to approval of any new development project.

Policy PS1.1.5: When new development is proposed in vacant, rural areas which have not yet been master planned for provision of infrastructure, require that development proponents provide for or contribute a fair share towards development of regional master facility plans for roads, sewer, water, drainage, schools, libraries, parks, fire and other community facilities, prior to granting conditional approval of development applications.

Policy PS1.6.1: Through adoption of an ordinance, regulate utility line and other utility infrastructure placement and require undergrounding where feasible.

Policy PS2.1.1: Require new development to obtain adequate water service to meet the increased service needs generated by that development.

Policy PS2.1.3: Promote water conservation and long-term water management in all phases of development planning and construction through the policies and implementation measures contained in the Environmental Resources Element.

Policy PS4.1.4: Condition approvals of development projects to meet the funding requirements of applicable school districts to the extent permitted by law. On legislative decisions such as zone changes or General Plan Amendments, require appropriate school mitigation as determined by the affected districts to the extent permitted by law.

Policy PS4.2.1: Cooperate with other jurisdictions and public or private agencies to work towards establishment of a four-year college or university in the Antelope Valley.

Policy PS5.2.4: Provide a program of pro-active community-based policing in selected areas which merit special attention based upon needs for law enforcement, code enforcement, housing rehabilitation, graffiti control, and personal contact with officials capable of providing assistance.

Policy PS5.6.3: Promote provision of a full range of public services within the Civic Center plan area, including library, cultural center, sheriff's station, fire station, and City Administration.

Policy PS5.8.1: Develop or provide a performing arts center to serve a variety of musical, theatrical, exhibit and community needs.

LAND USE ELEMENT:

Policy L1.3.3: Through the development review process, evaluate proposals with respect to their impacts on adjacent properties, including their impacts on existing uses of those properties, and require that project designs employ appropriate techniques to increase compatibility between uses.

Policy L1.4.1.c: When land designated for less intensive uses abuts mineral extraction areas, the responsibility for providing adequate buffers should be borne equitably by both quarry operators and adjacent developers, where feasible based upon existing conditions and existing approvals.

Policy L3.1.1.g: "Medium Residential (6.1 to 10.0 du/ac): The Medium Residential (MR) designation is intended for residential uses at maximum gross densities ranging from 6 to 10 units per acre. Housing types may include single family detached, single family attached, townhouses, condominiums, duplexes, triplexes, apartments, or manufactured housing developments. Permitted structure types will be as specified in the underlying zone district. For single family residential uses within this designation, the minimum permitted lot size is 7,000 square feet, unless otherwise specified in an approved specific plan or planned development offering a variety of lot sizes, housing types, and public amenities, a senior housing project, or other approved development plan.

The Medium Residential designation is appropriate within those areas having existing or planned residential uses at 6 to 10 units per acre, which are or will be served by adequate infrastructure and services needed to support this level of development. Maximum permitted density will be determined through the development review process, based upon environmental and infrastructural conditions. Equestrian and large animal uses are not intended within this district".

Policy L3.2.6: Require disclosure, as deemed appropriate, on proposed residential developments which are affected by existing conditions such as, but not limited to, noise, dust, odors, light, seismic hazards, and frequent overflight of aircraft.

Policy L3.5.5: Require that development is designed to be sensitive to the preservation and protection of the desert environment and that building orientation and design consider and complement the natural characteristics of the desert environment.

Policy L4.1.1.d: Regional Commercial: The Regional Commercial (RC) designation is designed to accommodate retail and service uses attracting consumers from a regional market area. Goods and services provided are typically long-term in nature, rather than convenience goods. Representative uses include department stores, regional shopping malls, automobile dealerships, hotel/motels, and large retail outlets. Supportive commercial uses serving a community commercial function, such as financial institutions, retail and food services, may also be appropriate in this designation, provided that such uses are not primarily oriented to the convenience market. Regional commercial uses should be accessible via major arterial streets or freeways. Total development area within regional commercial designations typically ranges from 40 to 100 acres or more, although

individual developments within the designation may be on smaller parcels. Maximum floor area ratio is 1.0. Site design of regional centers should consider pedestrian needs and internal circulation that minimizes impacts on adjacent arterials.

Land Use Element Implementation Measure K.2: The City will notify the Palmdale Community Association and various homeowner's associations on a regular basis of land use decisions and development projects, and consult with representatives of these organizations as appropriate on land use issues.

Exhibit 3-19 (LU-6): revise to show additional area as "Existing Quarry Operations."

CIRCULATION ELEMENT:

Policy C2.2.6: Promote the establishment of a regional transportation center within the City, conveniently located to maximize access to downtown an major commercial centers, which will accommodate a variety of public transportation uses including rail, bus and shuttle service.

Circulation Implementation Measure O: Truck Routes

The City will evaluate the Municipal Code periodically to determine the adequacy of existing designated truck routes and to address the need for modified truck routes within various areas of the City.

HOUSING ELEMENT:

Program H1.B: Density Bonus Ordinance (Proposed)

In accordance with state law, adopt a density bonus program that includes developer incentives as required by California Government Code 65915. Provide a 25% density bonus for housing developers who make 10% of their units affordable to households earning 50% of median income, 20% of their units affordable to households earning 60% of median income, or 50% of their units to qualifying senior residents. Provide additional density bonuses for housing projects which exceed these levels, to be specified in a density bonus ordinance.

NOISE ELEMENT:

Noise Element Implementation Measure B: Accoustical Analysis Reports The City will require accoustical analysis reports for those projects located within existing or future 60 dBA CNEL impact areas, areas subject to single-event noise episodes or as deemed necessary by the City. All acoustical analysis reports shall consider existing and future ambient and project related noise levels and shall be prepared by a qualified acoustical engineer with experience in environmental noise assessment and noise control design. Specifically, acoustical analysis reports shall include:

- Existing ambient and roadway noise levels recorded by a calibrated noise monitor.
- Roadway traffic noise level analysis models determining existing and future noise levels anticipated from proposed projects and related cumulative noise sources.
- Noise contour maps.
- Surrounding land uses with identification of sensitive noise receptors and noise sources.

- Impacts of the project to the existing ambient noise environment.
- Noise control measures where needed.
- Cumulative impacts due to related projects.
- Unavoidable adverse impacts to the project area.
- Assessment of impacts from single-event noise episodes

Acoustical analysis reports shall evaluate the impacts of the existing noise levels on the proposed project as well as the impact of the project on the existing noise environment. The Planning Department will evaluate projects to ensure that noise sensitive land uses, such as schools, hospitals, and residential developments, will not be located adjacent to sources of noise, when exceeding acceptable levels.

Where appropriate, the City will require acoustical analysis reports to include acoustical design for residential development adjacent to freeways or major arterials to achieve the appropriate interior and exterior noise levels through sound insulation, or other means, as indicated in Table N-3.

The Planning Department may require developments which will generate large congregations of people or maintain late nighttime hours to provide special mitigation measures, as indicated by the acoustical analysis.

A. Page 3-200: Replace Table 3-29 with the following:

TABLE 3-29

ESTIMATED EXISTING WATER CONSUMPTION

Land Use	Existing[a] Development	Consumption Factor[b]	Estimated Total Consumption
Residential	29,349 du	760 gpd/du[c]	22.3 mgd
Commercial	529 acres	2,000 gpd/acre	1.0 mgd
Industrial	1,842 acres	3,000 gpd/acre	5.5 mgd
Public Facilities	494 acres	1,500 gpd/acre	0.7 mgd
Total Consumption			29.5 mgd

mgd = million gallons per day.
du = dwelling units

[a] Residential development based on 1992 staff estimates. Non-residential development based on MBA land use survey (1989; updated by staff in 1992). See Table 3-11, page 3-102 (Land Use).
[b] Consumption factor based on Palmdale Water District and Los Angeles County Public Works Department generation ratio.
[c] This figure may overestimate water consumption, since it applies to single-family dwellings that use water for irrigation. Multi-family units, mobile homes, and single family dwellings on smaller lots may not use this much water per household, but this factor, recommended by the Palmdale Water District, provides a worst-case analysis.

Source: Michael Brandman Associates 1992.

B. Page 3-204: Add the following after the first sentence: "Plans are currently underway to expand the treatment plant's capacity to 30 mgd."

C. Page 3-203: Paragraph 4, last sentence: change $50 per acre-foot to $68 per acre-foot. Delete the following: "and $123 per acre-foot of treated water" and add the following sentence: "The Palmdale Water District does not buy treated water from the State Water Project."

D. Page 3-204: First paragraph. Replace "as well as 5 storage reservoirs with a total capacity of 16 million gallons" with as well as 12 reservoirs with 29 million gallons of treated water storage capacity."

E. Page 4-173: Replace Table 4-16 with the following table:

TABLE 4-16

PROJECTED WATER CONSUMPTION

Land Use	Consumption Factor[a]	Water Consumption at Proposed General Plan Buildout
Residential	760 gpd/du[a]	105 79 mgd
Commercial	2,000 gpd/acre	17 7 mgd
Industrial	3,000 gpd/acre	86.1 mgd
Public Facilities	1,500 gpd/acre	1.3 mgd
Total Consumption		210.9 mgd

gpd = gallons per day
mgd = million gallons per day.

[a] Consumption factor based on Palmdale Water District and Los Angeles County Public Works Department water consumption rates.

Source: Michael Brandman Associates 1992.

Additionally, on Page 4-172, fourth paragraph. replace "135.93 million gallons per day (169,731 acre-feet per year)." with "210.9 million gallons per day (236,857 acre-feet per year)."

Page 4-172: Last paragraph, last sentence, replace "45 percent" with "33 percent".

F. Page 3-205: Insert at the end of the fourth paragraph: "There are approximately 242 miles of local sewers within the jurisdiction of the City of Palmdale which discharge into the County Sanitation District 20 facilities. These sewers are owned by the City but operated by the Consolidated Sewer maintenance District (CSMD) of the Los Angeles County Department of Public Works. Therefore, future development will be required to annex to the CSMD for sewer operation and maintenance.

G. Page 3-62: Third paragraph: Delete the first sentence and replace with: "The groundwater basin is hydrologically isolated, thus, of the three potential variables for groundwater recharge, subsurface flows from adjacent groundwater basins is the least probable means of recharge".

H. Page 4-57: Third paragraph, add after second sentence: "It should be noted that the discrepancies in extraction figures are a consequence of differing time periods and conditions. Considering that drought conditions persist and the state water was reduced, agriculture as well as others had to extract larger amounts of groundwater in 1990 compared to 1989.

I. Page 3-63: Third paragraph, third sentence: delete the word "safely".

J. Page 3-63: Third paragraph, second to the last sentence Change " the ability to hold 88 million acre-feet of water.. " to " the ability to hold 68 million acre-feet of water "

K. Page 3-201: Fifth paragraph. Delete paragraph and replace with the following: Water bought from AVEK is conjunctively used with groundwater pumped from 33 wells of Waterworks Districts 4 and 34 and nine wells of Waterworks 24, 27, and 33. The water systems are interconnected and their operations consolidated. It is the intent of the Department of Public Works to consolidate the Districts to more efficiently operate the "in lieu of pumping" and artificial storage and recovery programs. Generally, approximately 60 percent of the Waterworks Districts' water demands are met by AVEK supplemental water supply and 40 percent from groundwater. In 1990, this amounted to approximately 19,000 acre-feet of AVEK water and approximately 13,300 acre-feet of well water. As facilities are expanded, the Waterworks Districts plan to use 80 percent supplemental water to meet future demands.

L. Page 3-203: First paragraph, second sentence. Revise to read as follows: "It has 33 groundwater wells aside from the water bought from AVEK."

M. Page 3-203: Second paragraph, first sentence. Revise to read as follows: "Districts 24, 27, and 33 serve the small portions of the City with groundwater and water bought from AVEK."

N. Page 3-204: Last paragraph, last sentence. Delete last sentence and add: "Little Rock Creek Irrigation District contracts directly with DWR for state water. It supplements this imported water with local groundwater."

O. Page 3-205: Fourth paragraph. Revise the second sentence through the last sentence to read as follows:

District 20 is served by the Palmdale Water Reclamation Plant (PWRP) which has an existing design capacity of 8.0 million gallons per day (mgd). Exhibit 3-45 shows historical processing rates at the plant. The existing facility includes storage tanks, digestors, clarifiers, exidation ponds, and evaporation-percolation disposal ponds in two adjacent sites. Because the PWRP currently treats an average flow of 8.1 mgd, the Sanitation Districts are presently expanding the treatment capacity through surface aeration of the existing oxidation ponds. Stage IV of the ongoing PWRP expansion will increase the design capacity of the treatment plant to 15 mgd by 1994.

Page 3-206: First paragraph. Delete the second and third sentences and add the following at the end of the paragraph:

The Lancaster Water Reclamation Plant (LWRP) has a design capacity of 10 mgd and presently treats an average flow of 8.2 mgd. In order to meet the current service demand, the Sanitation Districts and expanding the treatment capacity of the LWRP through surface aeration of the existing oxidation ponds. Stage IV of the ongoing expansion will increase the design capacity of the treatment plant to 16 mgd and is scheduled to be completed in late 1994.

Page 3-212: Revise Table 3-31 to read as follows:

TABLE 3-31

SEWER FLOW PROJECTIONS

	District 20	District 14	Total Flow (mgd)
Current Capacity	8.0	10.0	18 0
Planned Expansion (by 1994)	15.0	16.0	31 0
2010 Projections:			
12-month regression	50.0	37 0	87.0
24-month regression	40.0	27.0	67 0
36-month regression	26.0	21.0	47.0

Source: Los Angeles County Sanitation Districts 1992.

Page 4-181: First paragraph. In the first sentence, change "2.8 times" to "6.3 times" and in the second sentence, change "additional 4.2 mgd" to "additional 13 mgd". Revise the third sentence to read as follows: "This is 27.5 percent of the projected need."

P. Page 4-181: Add after the second paragraph:

"There are approximately 242 miles of local sewers within the jurisdiction of the City of Palmdale which discharge into the County Sanitation District 20 facilities. These sewers are owned by the City but operated by the Consolidated Sewer maintenance District (CSMD) of the Los Angeles County Department of Public Works. The existing conveyance facilities can support a limited amount of development before their capacity is met. Additionally, in order to serve proposed projects, sewer collectors and trunk sewers will need to be extended into undeveloped areas. Future development will be required to annex to the CSMD for operational and maintenance purposes."

Q. Page 3-62: Second paragraph. Change last sentence to read, "A Los Angeles County Waterworks Districts report indicates that the groundwater basin has a storage capacity of 68,000 acre-feet, although the Department of Public Works has been using the 58,000 acre-feet estimated by R.M. Bloy of USGS in 1967 (LACPW September 1992).

R. Page 3-64: First paragraph. Delete paragraph and replace with the following:

"Rates of decline ranging from 1 foot per year in nonpumping areas to 6 feet per year in existing pumping depressions have been noted. Drawdowns, averaging 31 feet per year in Los Angeles County Waterworks Districts wells, are not uncommon during periods of groundwater pumping. To counteract overdrafting, the Los Angeles County Waterworks District is implementing a conjunctive use policy which uses imported water to the extent possible,

conserving groundwater for times when imported water is not available This policy has contributed to increased water levels in certain locations. Still, region-wide groundwater levels are thought to have declined compared to historic levels in the Lancaster subbasin "

Page 3-64: Third paragraph, first sentence. Change "Mohave Basin" to "Antelope Valley Basin". Revise last sentence to read: "According to a 1984 USGS study, groundwater quality throughout the Antelope Valley has remained unchanged. However, this situation may have changed with the increase in development and population. In addition, concentrations of nitrates exceed the MCL of public water supply criteria in the vicinity of Littlerock, possibly due to nitrogen fertilizers used on orchards. Potential sources of groundwater contamination include urban runoff, septic tanks, declining water tables, and the perched water conditions in Lancaster."

S. Page 3-65: First paragraph. Revise the last sentence to read: "In 1991, AVEK received 7,190 acre-feet from the SWP, as water allotments were decreased due to drought conditions. Another 15,725 acre-feet were purchased from local groundwater wells."

T. Page 4-56: Third paragraph. Add the following after the first sentence: "The Los Angeles County Waterworks Districts distributed water conservation kits, produced educational programs, and encouraged the use of drought resistant landscaping to help conserve water. The Waterworks Districts also instituted mandatory water conservation measures during the current drought cycle, the only mandatory restrictions imposed by an Antelope Valley water purveyor. As artificial water storage and recovery program is being pursued as well.

U. Page 4-56: Fourth paragraph, third sentence. Change "Little Rock" to "Littlerock".

V. Page 4-57: Third paragraph. Add the following sentence to the end of the paragraph: "The Los Angeles County Waterworks Districts plans to use 80 percent supplemental water sources as local facilities are expanded, thereby reducing reliance on local groundwater. Other water purveyors are expected to use a greater proportion of imported water as well, further reducing the future demand on the aquifer."

W. Page 4-70: First paragraph after bulleted policies. Add the following sentence to the end of the paragraph: "Future development projects that would impact drainage flows to the California Aqueduct shall submit drainage plans for review and comment by the Department of Water Resources (DWR) during the environmental review process."

X. Page 4-70: Add the following new paragraph between first and second paragraphs: "Any development that encroaches upon the DWR right-of-way at the California Aqueduct will be required to file an encroachment permit. All bridges within the Aqueduct right-of-way shall be designed as single-span bridges; no supports will be allowed within the Aqueduct. The City of Palmdale will be responsible for all future maintenance and repair of bridges once installation is complete. Bridges dedicated to Los Angeles County or Caltrans will be maintained and repaired by those agencies.

Y. Page 4-184: Add the following mitigation measure: "Individual projects may require an Industrial Wastewater Discharge Permit from the Los Angeles County Sanitation Districts. Project developers shall contact the Sanitation Districts' Industrial Waste section during the design phase of the development to determine whether a permit is necessary. Final plans must be submitted to the districts for review and approval prior to construction if a permit is required."

Z. Page 3-140: Fourth paragraph. Revise first sentence to read as follows: "AVTA is responsible for overseeing bus services, including the service provider, routes, schedules, and hours of operation."

Page 3-142: Third paragraph. Delete first sentence and replace with the following: "Dial-a-Ride service is also provided by AVTA. Currently, the dial-a-ride services includes 13 vans in service and 2 vans in reserve."

Page 3-145: First paragraph. Delete first sentence and replace with the following: "AVTA also provides two commuter bus lines between Palmdale and central Los Angeles and the San Fernando Valley."

AA. Page 3-273: Second paragraph. Add the following sentence to the end of the paragraph: "It should be noted that, because most of the planning area remains undeveloped, cultural resource surveys have not been conducted in most parts of the planning area."

BB. Page H-1: Table H-1, last entry "single family houses." Revise to read "1913, 1920s and 1938." Add the following after "...and 9th Street East. 1913 Sadler Block house and 1920 house were owned by Sadler family members.

CC. Page 3-187: Table 3-26, Avenue S Park. Add footnote to third column (undeveloped): "According to the Antelope Valley Archaeological Society, this property is part of the original Palmdale Cemetery property. There is the potential for burial sites located within and outside the fenced portion of this property. Prior to site disturbance, additional surveys will be conducted. If burial sites are found, the city will follow the recommendations of the County Coroner."

DD. Appendix A: Page A-5, Historic Resources. Add to Source column "Antelope Valley Archaeological Society, Inc."

Appendix A: Page A-6, Archaeological Resources. Add to Source column "Antelope Valley Archaeological Society, Inc."

EE. Page 3-89: Third paragraph. Add the following sentence to the end of the paragraph: "Mining and quarry operations have occurred in the Littlerock Wash fan for several decades; the natural habitat is some portions of the fan have been disturbed by these operations."

FF. Page 4-52: Bottom of page. Add the following:

"8. The City of Palmdale will prepare an Air Quality Element and Action Plan that incorporates and ensures expeditious implementation of the transportation control measures identified in the 1991 AQMP, Appendix IV-E. With the approval by SCAG of certain measures within the Air Quality Element, the City of Palmdale will have the authority to review regionally significant general development projects for consistency with the AQMP. The Air Quality Element preparation and adoption process will include the following steps:

1. Adopt appropriate General Plan provisions that include objectives consistent with the AQMP and Air Quality Element Guidelines.

2 Agree to implement the appropriate local government measures from the AQMP identified in the Guidelines and AQMP

3. Adopt changes, as necessary, to the General Plan Update to make the plan internally consistent with the Air Quality Element/Action Plan.

4. Approve a schedule and assign staff responsibilities for implementing the adopted local air quality objectives consistent with the AQMP and the Guidelines.

5. Determine that the city has been making reasonable further progress toward implementing the local government measures in the AQMP as measured by the annual Reasonable Further Progress Reports."

GG. Page 4-42: Third paragraph. Add the following to the beginning of the second sentence: "For example, based on total vehicle miles travelled of 20,317,195, buildout traffic generation..."

HH. Page 3-204: Fourth paragraph. Revise the first sentence as follows: "The USAF Plant 42 has 13 wells to serve the buildings within its property."

II. Page 4-55: Third paragraph. Add the following sentence at the end of the paragraph: "New sources of water, such as reclaimed water and water made available from other areas through transfers and other methods, will supplement the groundwater and water from the State Water Project."

Page 4-56: Fifth paragraph. Revise second sentence to read: "Newly developed areas will obtain water from existing sources--the local aquifer and the State Water Project--as well as supplies made available by water conservation programs and the use of reclaimed water."

Page 4-57: Third paragraph. Add the following sentence to the end of the paragraph: "The Los Angeles County Waterworks Districts plans to use 80 percent supplemental water sources are local facilities are expanded, thereby reducing reliance on local groundwater. Other water purveyors are expected to use a greater proportion of imported water as well, further reducing the future demand on the aquifer."

JJ. Page 3-132: Table 3-19. Revise Table 3-19 to include Bouquet Canyon Road as follows:

Roadway:	Bouquet Canyon Road
From/To:	Elizabeth Lake Road to Planning Area Boundary
Striping/ Geometrics:	2 LANES
Facility Type:	MINOR
Capacity:	12,000
Volume:	1,800
V/C:	0.15
LOS:	A

Page 4-124: Table 4-13. Revise Table 4-13 to include Bouquet Canyon Road as follows

Roadway: Bouquet Canyon Road
From/To: Elizabeth Lake Road to Planning Are Boundary
Striping/
Geometrics: 2 LANES
Capacity: 12,000
Volume: 9,000
V/C: 0.75
LOS: C

ORIGINAL REC'D

FEB 05 1993

COUNTY CLERK

BY _____ DEPUTY

NOTICE OF DETERMINATION

TO: County Clerk
County of Los Angeles
111 North Hill Street
Los Angeles, CA 90012

FROM: City of Palmdale
Planning Department
38306 9th Street East
Palmdale, CA 93550

Case Planner:	Molly Bogh, Director of Planning
Applicant:	City of Palmdale
Address:	38306 9th Street East Palmdale, CA 93550
Case:	City of Palmdale General Plan
Description of Project:	The project consists of the General Plan for the City of Palmdale. Elements of the General Plan include Land Use, Noise, Housing, Circulation, Public Services, Environmental Resources, and Safety.
Location:	The General Plan covers 111,527 acres within the Antelope Valley, including the City and its sphere of influence.

The General Plan was approved by the City Council of the City of Palmdale on January 25, 1993. The EIR prepared for the project was certified on January 25, 1993. The EIR determined that implementation of the General Plan will result in significant effects on the environment in the following areas: exposure of residents to seismic hazards, significant air quality impacts, loss of biological resources, loss of existing open space, significant jobs/housing imbalance, and impacts to circulation. In addition, the following significant cumulative impacts were identified: cumulative impacts from seismic hazards, cumulative impacts to air quality, potentially cumulative impacts to groundwater resources, cumulative impacts to biological resources, cumulative impacts to jobs/housing balance, and cumulative impacts to traffic and circulation systems. In compliance with the provisions of the California Environmental Quality Act, the City Council adopted statements of overriding consideration for the project.

The General Plan and the General Plan Final EIR are on file and available for review at the City of Palmdale, Planning Department, 38306 9th Street East, Palmdale, California 93550

Dated: January 26, 1993

Molly Bogh

Molly Bogh, Director of Planning
City of Palmdale

MEB:lob/wp11189

920181-2

City of Palmdale

Draft

Environmental Impact Report

ADDENDUM FOR GENERAL PLAN EIR

Subsequent to preparing the Draft EIR for the General Plan, the Planning Commission recommended several changes to the Land Use Element. These changes, as noted below, will not substantially affect the analysis of impacts contained in Section 4 of this EIR. The following is a description of the modifications to the Land Use Element:

1. **Special Development Designation:** The Planning Commission recommended that this designation be added and applied to properties within largely vacant areas of the City that may be impacted by future development pressures and where master infrastructure and backbone facility planning is warranted to ensure systematic provision of urban services. Master infrastructure planning for these areas may be accomplished through preparation of one or more Specific Plans, area plans, or equivalent comprehensive planning documents.

This "Special Development" designation is denoted by an SD on the Land Use Map. Properties affected by the designation include: Santa Fe Hills, Vincent Hills, the Bushnell Property, and the Southwest Planning Area. Additionally, specific goals, objectives, and policies applicable to these areas are contained within the Land Use Element starting with Policy L7.1.4. The description of this designation is as follows:

> "The Special Development (SD) designation is appropriate for areas which merit focused planning efforts to ensure orderly and logical development in accordance with General Plan policies. The SD designation is placed upon areas which, due to lack of infrastructure and public services, topography, environmental sensitivity, and development constraints, require comprehensive planning prior to development which goes beyond the level of detail normally associated with the General Plan. This planning could be accomplished through the Specific Plan process, although other methods may be acceptable if they provide the following: 1) A detailed implementation program, including facility phasing and funding; 2) carefully prescribed balance of development and open space within a planning area, in an economically feasible manner; 3) special regulations that are responsive to unique local conditions; and 4) necessary flexibility for long range planned community projects.
>
> Other than single family dwellings on existing lots, gross density within residential portions of the SD designation shall have a range of 0-2 dwelling units per acre. Actual permitted densities within this range are to be determined based upon a site's capacity to accomodate the proposed development, considering such factors as availability of urban services; adequacy of existing and proposed roads to service the proposed densities; physical constraints,

including slopes, drainage courses, faults, or similar features; compatibility with adjacent land uses; or other requirements of development, as identified through the review process. In no instance shall the density range established for this designation be interpreted as a guarantee of permitted density.

Upon preparation, review and adoption of one or more comprehensive Specific Plans or similar comprehensive planning document(s) for property within this designation, a higher density may be established based upon environmental, topographic, and infrastructural capacity of the land as defined by supporting documentation. With approval of such Specific Plan or comprehensive planning studies, a General Plan Amendment may be approved to amend the land use designation as determined appropriate pursuant to those studies."

Because the average density within SD designated areas is expected to be one (1) dwelling unit per acre, previous analysis based on LDR densities would be relatively unchanged. Therefore, this change will not increase the impacts described in Section 4 of the EIR. If future Specific Plans are proposed which provide for a higher density that established under this designation, subsequent environmental documents will be prepared to evaluate impacts of the respective plan.

2. **Additional Land Use Element Goal:** A new goal statement was added to the Land Use Element pertaining to areas of the City containing specific development policies or those areas falling under the Special Development Designation. That goal reads as follows:

Goal L7: Provide proactive comprehensive planning within designated areas of the City where unique development opportunities or physical conditions warrant special planning efforts.

The policies proposed under this goal provide further guidance and environmental protection for specific areas than what existed under the base land use designations. Therefore, this change will not increase, and will likely decrease potential environmental impacts in affected areas.

3. **Mixed Use Designation:** To address areas which are in transition between residential and commercial uses, the Planning Commission recommended designating certain areas as Mixed Use Transitional. Policies pertaining to this designation are listed under Objective L2.4 in the Land Use Element. The description of this designation is as follows:

"Mixed Use Transitional: The application of "Mixed Use Transitional" will modify the base land use designation. The Mixed Use Transitional (MT) modifier is intended for areas which are already developed with a predominant land use type but which are in transition to a different land use. This designation is appropriate at the edge of use areas where there is expansion or encroachment of a new use type into an area established with older noncompatible uses, and in which such expansion of the new use meets the long-range goals and objectives of the City's General Plan. This designation is intended to allow the transition of new uses in an orderly fashion while not rendering existing structures in the area unusable. A typical designation of this use type would occur where commercial uses in the downtown core area have expanded into existing single family structures in adjacent older neighborhoods, but in which residential use is still occurring. This designation is not appropriate in areas which are predominantly vacant. The purpose of this designation is to minimize land use conflicts between various use types during transitional periods, while preserving ongoing economic viability for existing uses."

The long term base designation is not altered by this overlay. It is only intended to provide an orderly transition in areas undergoing a change from one land use type to another. Ultimate development under the General Plan will not change. Therefore, overall impacts evaluated under the draft EIR continue to apply.

The final EIR will note these changes and any others that are generated through the public review/public hearing process.

lob/gp198

DRAFT
PROGRAM ENVIRONMENTAL IMPACT REPORT
FOR THE
CITY OF PALMDALE DRAFT GENERAL PLAN

Prepared for:

Planning and Development Department
City of Palmdale
38306 9th Street East
Palmdale, California 93550
(805) 272-9613

Contact: Molly Bogh, Planning Director

Prepare by:

Michael Brandman Associates
606 South Olive Street, Suite 600
Los Angeles, California 90014
(213) 622-4443

Contact: Joan Kelly, Director of Environmental Services

August 1992

TABLE OF CONTENTS

Section		Page
1	**INTRODUCTION**	1-1
	1.1 Introduction	1-1
	1.2 Summary	1-8
2	**PROJECT DESCRIPTION**	2-1
	2.1 Project Location	2-1
	2.2 Project Description	2-6
	2.3 Project Goals	2-7
	2.4 Relationship to Other Plans	2-13
3	**ENVIRONMENTAL SETTING**	3-1
	3.1. Geology	3-1
	3.1.1 Soils	3-9
	3.1.2 Geological Hazards	3-6
	3.2. Air Quality	3-35
	3.3. Water Resources	3-53
	3.3.1 Groundwater	3-53
	3.3.2 Surface Water	3-66
	3.3.3 Flood Hazards	3-67
	3.4. Biological Resources	3-73
	3.4.1 Vegetation	3-75
	3.4.2 Wildlife	3-83
	3.4.3 Sensitive Ecological Areas	3-89
	3.5. Natural Resources	3-92
	3.5.1 Minerals	3-92
	3.5.2 Open space	3-98
	3.6. Land Use	3-100
	3.7. Population	3-106
	3.8. Housing	3-109
	3.9. Transportation and Circulation	3-115

TABLE OF CONTENTS (continued)

Section		Page
3.10.	Public Services	3-157
3.10.1	Fire Protection	3-157
3.10.2	Police Protection	3-162
3.10.3	Schools	3-165
3.10.4	Parks and Recreational Facilities	3-182
3.10.5	Libraries	3-191
3.10.6	Hospitals	3-195
3.11	Public Utilities	3-196
3.11.1	Water	3-196
3.11.2	Sewer	3-205
3.11.3	Solid Waste Disposal	3-212
3.11.4	Storm Drainage	3-215
3.11.5	Power	3-217
3.11.6	Natural Gas	3-221
3.11.7	Telephone	3-223
3.11.8	Cable Television	3-223
3.12	Risk of Upset	3-225
3.12.1	Seismic Hazards	3-225
3.12.2	Aircraft Crash Potential	3-225
3.12.3	Hazardous Materials/Wastes	3-226
3.13	Noise	3-235
3.14	Light	3-253
3.14.1	Natural Light	3-253
3.14.2	Artificial Light	3-253
3.14.3	Glare	3-254
3.15	Aesthetics	3-254
3.15.1	Viewsheds	3-254
3.15.2	Scenic Highways	3-255
3.16	Cultural Resources	3-263
3.16.1	Historic Resources	3-263
3.16.2	Archaeological Resources	3-268
3.16.3	Paleontological Resources	3-273

TABLE OF CONTENTS (continued)

Section		Page
4.	PROJECT IMPACT ANALYSIS AND MITIGATION MEASURES	4-1
	4.1. Summary of Impacts, Mitigation Measures, and Impacts Which Cannot be Mitigated to a Level of Insignificance	4-1
	4.2. Environmental Impacts	4-22
	4.2.1 Geology/Grading	4-22
	4.2.2 Air	4-39
	4.2.3 Water Resources	4-55
	4.2.4 Biology	4-71
	4.2.5 Natural Resources	4-76
	4.2.6 Land Use	4-83
	4.2.7 Population	4-101
	4.2.8 Housing	4-104
	4.2.9 Transportation and Circulation	4-115
	4.2.10 Public Services	4-146
	4.2.11 Public Utilities	4-171
	4.2.12 Risk of Upset	4-217
	4.2.13 Noise	4-243
	4.2.14 Light	4-251
	4.2.15 Aesthetics	4-253
	4.2.16 Cultural Resources	4-255
5	SIGNIFICANT ADVERSE IMPACTS WHICH CANNOT BE MITIGATED TO A LEVEL OF INSIGNIFICANCE	5-1
6	LONG-TERM IMPACTS	6-1
	6.1 Relationship Between Local Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long Term Productivity	6-1
	6.2 Significant Irreversible and Irretrievable Commitment of Resources with Plan Implementation	6-2
7	GROWTH-INDUCING IMPACTS OF THE PROPOSED ACTION	7-1

TABLE OF CONTENTS (continued)

Section		Page
8	**CUMULATIVE IMPACTS**	8-1
	8.1 Related Projects	8-1
	8.2 Cumulative Impacts	8-5
9	**ALTERNATIVES**	9-1
	9.1 No Project Alternative	9-3
	9.2 Existing General Plan Alternative	9-15
	9.3 Low Density Land Use Plan Alternative	9-35
	9.4 Urban Boundary Alternative	9-51
	9.5 Future Update Alternative	9-55
	9.6 Environmentally Superior Alternative	9-56
10	**ORGANIZATIONS/PERSONS CONTACTED AND CONSULTANTS**	10-1
11	**REFERENCES AND PREPARERS OF EIR**	11-1

Appendices

A MEA Updating Guide
B Initial Study and Notice of Preparation
C Responses to Notice of Preparation
D General Plan Goals and Policies
E Calculated Emission Levels
F Floral and Faunal Compendia
G Cultural Resources Information
H Noise Monitoring Location Worksheets (available for review in the Planning Department)

LIST OF TABLES

Table		Page
1-1	Summary of Impacts	1-10
2-1	Population Growth	2-5
2-2	Land Use Classifications	2-12
3-1	Comparison of Magnitude and Intensity	3-22
3-2	Fault Magnitudes	3-23
3-3	Historical Earthquakes that have Affected the City	3-25
3-4	Summary of Annual Air Quality Data	3-39
3-5	Ambient Air Quality Standards	3-40
3-6	1990 Mobile Source Emissions	3-48
3-7	1990 Long-Term Stationary Emissions	3-49
3-8	Emission Factors for Equipment and Vehicles	3-51
3-9	Depth to Groundwater	3-61
3-10	Data on Resource Area and Sectors	3-97
3-11	Existing Land Use Acreages	3-102
3-12	Population Growth, 1965-1992	3-107
3-13	Housing Stock Growth	3-112
3-14	Housing Overpayment	3-113
3-15	Projected Housing Needs (1989-1994	3-114
3-16	Major Arterials Within the Palmdale Planning Area	3-119
3-17	Minor Arterials Within the Palmdale Planning Area	3-125
3-18	Levels of Service Interpretation	3-130
3-19	Level of Service Analysis, Existing Volumes on Existing Network	3-132
3-20	Fire Protection Personnel and Equipment	3-158
3-21	Fire Flow Requirements	3-162
3-22	Reported Crimes	3-165
3-23	Schools and Enrollment by District	3-169
3-24	School Capacity and Enrollments, 1992	3-174

LIST OF TABLES (continued)

Table		Page
3-25	Historical and Projected Enrollments at Antelope Valley College	3-181
3-26	Public Park Facilities	3-185
3-27	Parkland Acreage Standards	3-189
3-28	Water Entitlement	3-197
3-29	Estimated Existing Water Consumption	3-200
3-30	Sewer Loadings for Each Class of Land Use	3-210
3-31	Sewer Flow Projection	3-212
3-32	Electric Power Consumption	3-218
3-33	Average Annual Electric Energy Usage	3-220
3-34	Natural Gas Consumption Factors	3-222
3-35	Underground Storage Tank Leaks	3-231
3-36	Designated Truck Route, 1992	3-234
3-37	Noise Measurements by Site	3-238
3-38	Existing Roadway Noise Levels	3-243
4-1	Summary Chart	4-2
4-2	1991 Mobile Source Emissions	4-43
4-3	Predicted Mobile Source Emissions at Buildout	4-44
4-4	Change Between 1991 and 2010 Mobile Source Emissions	4-45
4-5	1991 Utility Emissions	4-46
4-6	Estimated Utility Emissions at Buildout	4-47
4-7	Change Between 1991 and Buildout Utility Emissions	4-48
4-8	Existing and Proposed Land Use Designations	4-89
4-9	Land Use Classifications	4-92
4-10	Land Use Plan Capacity	4-94
4-11	General Plan Target Dwelling Unit Capacity	4-105
4-12	Existing and Buildout Land Use and Trip Generation	4-116

LIST OF TABLES (continued)

Table		Page
4-13	Future Traffic Volumes and Levels of Service	4-124
4-14	Projected School Enrollment	4-154
4-15	Library Space and Service Requirements	4-164
4-16	Projected Water Consumption	4-173
4-17	Projected Daily Sewage Generation	4-180
4-18	Solid Waste Generation Factors	4-188
4-19	Projected Solid Waste Generation	4-189
4-20	Projected Power Consumption	4-201
4-21	Projected Natural Gas Consumption	4-206
4-22	Aqueduct Pools	4-220
4-23	Future Noise Levels	4-236
8-1	Land Use Classifications -- Proposed Land Use Plan	8-2
8-2	Lancaster General Plan Land Use Capacity	8-3
8-3	SCAG 2010 Projections	8-4
8-4	Antelope Valley Land Use Projections	8-5
8-5	Cumulative Student Generation	8-11
8-6	Cumulative Water Consumption	8-13
8-7	Cumulative Daily Sewage Generation	8-14
8-8	Cumulative Daily Solid Waste Generation	8-15
8-9	Cumulative Electrical Consumption	8-16
8-10	Cumulative Natural Gas Consumption	8-17
9-1	Comparison of Proposed Project and Alternatives	9-2
9-2	Comparison of Alternative Impacts	9-3
9-3	Land Use Designations - Existing Land Use	9-4
9-4	Land Use Designations - Existing General Plan Alternatives	9-16

LIST OF TABLES (continued)

Table		Page
9-5	Mobile Source Pollutant Emissions - Existing General Plan Alternative	9-19
9-6	Stationary Source Emissions - Existing General Plan Alternative	9-20
9-7	Student Generation - Existing General Plan Alternative	9-25
9-8	Library Space and Service Requirements - Existing General Plan Alternative	9-27
9-9	Projected Water Consumption - Existing General Plan Alternative	9-28
9-10	Projected Sewage Generation - Existing General Plan Alternative	9-29
9-11	Projected Solid Waste Generation - Existing General Plan Alternative	9-30
9-12	Power and Natural Gas Demand Factors	9-31
9-13	Projected Power and Natural Gas Consumption - Existing General Plan Alternative	9-32
9-14	Land Use Designations - Land Use Plan Alternative	9-36
9-15	Student Generation - Land Use Plan Alternative	9-42
9-16	Library Space and Service Requirements - Land Use Plan Alternative	9-43
9-17	Projected Water Consumption - Land Use Plan Alternative	9-44
9-18	Projected Sewage Generation - Land Use Plan Alternative	9-45
9-19	Projected Solid Waste Generation - Land Use Plan Alternative	9-46
9-20	Projected Power and Natural Gas Consumption - Land Use Plan Alternative	9-47

LIST OF EXHIBITS

Exhibit		Follows Page
2-1	Regional Location	2-2
2-2	Planning Area	2-3
2-3	Land Use Policy Map	*
3-1	Soil Associations	3-4
3-2	Slope Categories	3-11
3-3	Soil Expansion Potential	3-12
3-4	Soil Erosion Potential	3-13
3-5	Soil Infiltration Capacity	3-15
3-6	Septic Tank Limitations	3-16
3-7	Subsidence	3-19
3-8	Major Faults Near Palmdale	3-24
3-9	Earthquake Fault Zones	3-26
3-10	Earthquake Faults in the Region	3-27
3-11	SCAQMD Air Monitoring Network	3-38
3-12	Cross Section of Lancaster Subunit	3-56
3-13	Aquifers and Groundwater Surface	3-57
3-14	Antelope Valley Ground Water Basin	3-59
3-15	Flood Hazards Areas	3-68
3-16	Inundation Areas	3-71
3-17	Aqueduct Failure Flow Direction	3-72
3-18	Area Vegetation	3-74
3-19	Sand and Gravel Resource Areas	3-93
3-20	Generalized Geologic Cross Section	3-96
3-21	Existing Development Pattern	3-101
3-22	Residential Areas and Developments	3-110
3-23	Household and Housing Stock Growth	3-111

* On file at the Planning Department for public review

LIST OF EXHIBITS (continued)

Exhibit		Follows Page
3-24	Existing Roadway Network	3-116
3-25	Existing Traffic Volumes (1990)	3-117
3-26	Level of Service	3-129
3-27	Existing Transit Service Routes	3-141
3-28	Proposed Dial-A-Ride	3-143
3-29	DAVE Commuter Busline Routes	3-144
3-30	Existing Designated Truck Routes	3-148
3-31	Existing Rail Lines	3-150
3-32	Existing and Proposed Bikeways	3-154
3-33	Wildfire Hazard Zones	3-159
3-34	Fire Station Initial Action Areas	3-160
3-35	Police Protection Facilities	3-167
3-36	Elementary Schools	3-168
3-37	Antelope Valley High Schools and Attendance Areas	3-180
3-38	Regional Scenic and Recreational Opportunities	3-183
3-39	Recreation Areas and Facilities	3-186
3-40	Trails	3-189
3-41	Libraries	3-194
3-42	AVEK Service Area	3-199
3-43	Service Areas of Water Companies	3-202
3-44	Sewer Service Areas	3-207
3-45	Historical Sewer Influent Flow	3-208
3-46	Sewer Flow Projections	3-211
3-47	Landfill Site	3-214
3-48	Transmission Lines	3-219
3-49	Telephone Exchange Areas	3-224
3-50	Aircraft Crash Zones	3-227

LIST OF EXHIBITS (continued)

Exhibit		Follows Page
3-51	Noise Measurement Locations	3-236
3-52	Existing Transportation Noise Contours	3-241
3-53	Generalized Character Districts	3-260
3-54	Potential Historical Resources	3-267
3-55	Archaeological Sensitivity Map	3-272
3-56	Paleontological Sensitivity Map	3-276
4-1	Proposed Future Roadway Network	4-117
4-2	Standard Street Sections	4-122

SECTION 1

INTRODUCTION

1.1 INTRODUCTION

In 1987, the City of Palmdale initiated a comprehensive update of their General Plan to address changing concerns and issues, to bring the General Plan and Zoning Ordinance into consistency, and to establish a firm direction for City programs and actions. The revised General Plan consists of eight elements: Land Use, Circulation, Housing, Public Services, Noise, Environmental Resources, Safety, and Community Design. Together, these eight elements embody the City's goals and programs for future development in the Planning Area.

In conformance with the California Environmental Quality Act (CEQA) and the State CEQA Guidelines, as amended, a program environmental impact report (EIR) has been prepared to evaluate the potential impacts associated with the update of the General Plan for the City of Palmdale. More specifically, this EIR addresses the environmental impacts associated with the following: (1) extension of the City's Planning Area, (2) a revised land use plan and land use policy map, (3) proposed housing programs, (4) proposed circulation plan to support the land use plan, (5) proposed public services, and (6) proposed community design guidelines. The Community Design Element is currently under preparation and is not specifically evaluated in this EIR. The proposed General Plan is discussed more thoroughly in the Section 2, Project Description.

Uses of the EIR

The EIR process requires the preparation of an objective, full-disclosure document to inform agency decision makers and the general public of the direct and indirect impacts of the proposed General Plan, to provide mitigation measures to reduce or eliminate potential adverse impacts, to identify impacts which cannot be reduced to a less than significant level, and to identify and evaluate reasonable alternatives to the proposed project. This document analyzes the environmental effects of the proposed action and effects that may occur due to future development in the City. The City of Palmdale is the "lead agency" in the preparation of this EIR. It has the primary responsibility for approval or denial of the proposed General Plan.

This document contains two major parts: a Master Environmental Assessment (MEA) and a Program Environmental Impact Report (EIR). The MEA is Section 3 of the EIR. It provides a master document of existing environmental conditions: a database of existing characteristics and constraints throughout the Planning Area. Information in the MEA can then be used for preparing project-specific EIRs, initial studies, and negative declarations, or in reviewing EIRs. Any agency or individual proposing a project in the Planning Area that is subject to CEQA guidelines may use this document as a master document of existing environmental conditions. Baseline data for the Planning Area should be updated at least annually to incorporate new studies or reports as they become available. This will keep the MEA current and accurate. Appendix A lists the different environmental issues discussed in the MEA, data that is expected to change, and sources of new information.

The MEA and EIR are combined to facilitate the review of the environmental impacts of development projects while satisfying state requirements for environmental impact analysis of general plans. The EIR is a program EIR which will deal with a series of actions to be taken over a period of time as a result of the adoption of the proposed General Plan. It provides an analysis of the impacts of the General Plan policies, implementation programs, and land use recommendations.

The EIR for the General Plan provides a broader analysis of effects and alternatives than an EIR on a specific action. It considers cumulative impacts on a broader scale and allows the use of areawide mitigation measures. It will also reduce paperwork by providing a basis for initial studies and negative declarations for future projects. This EIR will be used for the adoption of the General Plan update and for the approval of subsequent discretionary projects. These projects include, but are not limited to, the zoning ordinance, other city ordinances, capital improvement plan, and other improvement projects.

Successive development projects that are consistent with the General Plan will be subject to environmental review through "tiering". Projects that have no significant impacts, or those whose impacts can be mitigated by project revisions, can qualify for a negative declaration. When a development project has impacts that are addressed in the General Plan EIR and if mitigation measures contained in this EIR will mitigate the adverse impacts to a level of insignificance, the project may be approved by utilizing the General Plan EIR for the CEQA clearance. In some areas of impact, the implementation of all feasible mitigation measures will not reduce all impacts to a level of insignificance. A statement of overriding considerations for the impacts will be required of the

decision-making bodies in approving the General Plan Update. A statement of overriding considerations may also be required for these impacts in approving subsequent projects using the General Plan EIR for CEQA clearance. Projects which may have significant environmental effects not addressed in the General Plan EIR will require the preparation of a supplemental or project EIR.

Agencies that are expected to use this EIR include: the Antelope Valley-East Kern Water District (AVEK) and other water districts for their water facility projects; Caltrans for highway improvements in the Planning Area; the different school districts for new schools and expansion of existing facilities; utility companies for facility expansion; Los Angeles County for projects in unincorporated areas within Palmdale's Planning Area; other agencies proposing projects in the Planning Area; and, developers for privately funded projects.

EIR Focus and Effects Not Found to be Significant

The initial study of the proposed General Plan was prepared by City staff to identify the environmental elements that would or could be significantly impacted by the revision of the General Plan (see Appendix B.) These issues include earth/geology, air quality, water resources, biological resources, noise, light and glare, natural resources, risk of upset, land use, population, housing, transportation/circulation, public services, energy resources, utilities, aesthetics, recreation, and cultural resources. These impact areas are analyzed in detail in this EIR. Human health issues were initially determined by the lead agency not to be significant and are not addressed in this EIR.

EIR Participants and Public Review

The analysis in this EIR has been prepared in conformance with the local and State CEQA Guidelines, as amended. The City of Palmdale is the lead agency and environmental consultation for the EIR has been provided by Michael Brandman Associates (MBA). The Draft EIR will be provided to agencies and organizations listed within the Notice of Completion (NOC) as attached to the Draft EIR, for review and comment.

In addition, the draft EIR may be reviewed by interested parties not included in the NOC distribution list. The document will be available for a 45-day public review period at the Planning Department, 38306 9th Street East, Palmdale, California, and at the Palmdale Public Library, 708 Palmdale Boulevard, Palmdale, California 93550.

An effort was made during the preparation of the draft General Plan to contact all agencies, organizations and persons who may have an interest in Palmdale. These references are listed in Sections 10 and 11 of this EIR. Information and comments from these agencies and individuals have been included in the General Plan and the EIR. Agencies and interested persons not involved in the preparation of the draft document will have the opportunity to comment on the draft EIR during the 45-day public review period and public hearings held prior to adoption of the General Plan and certification of the EIR.

Areas of Potential Controversy

During the 30-day notice of preparation review period, responses were received from responsible agencies and interested parties. These comments are included as Appendix C. Areas of potential controversy include the following:

1. **Hillside Development**. The hillside areas present concerns for ground stability, erosion, soil infiltration and aesthetic qualities which affect development in these areas. Public safety concerns limit the intensity of development in these areas to minimize exposure of residents to geologic hazards. Low density development also minimizes disturbance of natural landform and preserves the environment.

   Because of the aesthetic appeal of hillsides, these areas experience pressure for development. Projects on hillside areas cost more due to increased building costs and consumer/resident demand. Development on hillsides alters the views of the foothills and mountain ranges. Grading activities change drainage courses and could make slopes less stable.

   While some residents feel that hillside areas should be protected from development, others see it as an attractive site for urban uses. To strike a balance of interests, the City has allowed low density development on the hillsides subject to standards designed to preserve the natural resources and the aesthetic quality of these areas.

2. **Land Uses Near the USAF Plant 42**. The USAF Plant 42 generates noise from test aircraft and pilot training activities on site. It also has the potential for aircraft accidents in and around the plant due to the nature of its operations. There are hazardous materials onsite which may cause fires and accidents during use, disposal, or transport. The area

around the plant is susceptible to these hazards, making high density residential and some commercial land uses incompatible. The site of the USAF Plant 42 is not fully developed at this time.

3. **Development of the Palmdale Regional Airport**. The Palmdale Regional Airport will provide air transportation to the Antelope Valley and neighboring communities. Depending on the number of flights daily, associated noise impacts and vehicular traffic will increase in the Planning Area. The potential for aircraft accidents and hazardous materials/wastes contamination will also increase with airport operations.

   Support services will develop with the airport and expand the job base of the City. The Palmdale Regional Airport could be a catalyst for industrial and commercial development around the proposed site.

4. **Development on the San Andreas Rift Zone**. The San Andreas Fault, which crosses the southwest portion of the Planning Area, is expected to be the source of a major earthquake in the region. The unpredictability of an earthquake and the damage it is capable of rendering is cause for concern. Development near the rift zone would unnecessarily expose people to the hazards associated with groundshaking and faulting. While geologic investigations and seismic safety construction are required for developments near the rift zone, it is no guarantee against harm and damage during an earthquake.

5. **Depletion of Groundwater Resources**. There has been growing concern for the amount of groundwater discharge that has occurred in the area to meet water consumption needs. With continuous lowering of water tables, the proposed increase in development could accelerate the depletion of water resources. Aggressive water conservation programs should be developed to alleviate the depletion of groundwater resources and to support successful future development in the City.

6. **Potential Contamination of Groundwater Resources**. Major areas of significant sand and gravel resources are located on the east side of the City. Quarry operations have excavated these resources to depths nearing the upper level of the water table and concerns have been expressed in regard to groundwater contamination if operations intrude below the water table. Potential contamination of the aquifer due to the operation of asphalt batch plants in the quarry district is also a controversial issue.

7. **Traffic**. Current growth in the Planning Area has increased traffic and congestion on city streets. Future development is expected to bring additional traffic increases which emphasizes the importance of timely road construction and improvements. The alleviation of traffic congestion in the Planning Area will depend on reliable traffic impact projections and the availability of funding to construct roads as needed. The City has adopted a traffic impact fee assessment and Master Traffic Level Maintenance Plan to fund improvements and maintenance. Street widening and signalization, transportation demand management (TDM) measures, and other transit and parking programs will lessen traffic and keep roads operating within acceptable levels of service.

8. **Air Quality**. The historic pattern of exceeding both the state and national Ambient Air Quality Standards (AAQS) for ozone and particulate matter (PM10) in the Palmdale area will continue into the foreseeable future. The South Coast Air Quality Management District (SCAQMD), through its Air Quality Management Plan (AQMP), projects the elimination of all exceedances of AAQSs in the Southeast Desert and South Coast air basins by 2007. In order to accomplish these reductions, many strict air quality controls are proposed. The implementation of these controls will affect all residents. The City will be taking an active role in the implementation of air emission reduction strategies. City residents will be asked to change some of their daily habitats, especially their modes of transportation. In addition, passage of indirect source control measures by the SCAQMD could result in more costly controls being required of developers in order to obtain building permits. These controls could add to the cost of new housing and commercial leases.

9. **Solid Waste**. The decreasing capacity of landfills and increasing solid waste generation has become a major national issue. Landfills are filling to capacity and few new landfills are being opened. Expansion of the Antelope Valley Landfill in the Planning Area has recently been approved by the County. This action will provide landfill capacity for the foreseeable future. In addition, to extend the life of the landfill, recycling measures are currently required, in compliance with recent state legislation (AB 939) that requires a 25 percent reduction in solid waste disposed at landfills by 1995, and a 50 percent reduction by 2000. The City has prepared local elements of the County's Integrated Solid Waste Management Plan to address these issues and requirements. The solid waste disposal needs of Palmdale will be met if landfill capacity remains available and proposed recycling programs are successful.

Alternatives Considered

This EIR analyzes the advantages of five alternatives to the proposed General Plan revision: the No-Project Alternative, the existing General Plan Alternative, and a Low Density Land Use Plan Alternative, Urban Boundary Alternative, and Future Update Alternative.

Analysis of an alternative site for the proposed Palmdale General Plan is not appropriate or feasible in this case. The draft General Plan is tailored to the City's physical characteristics and resources, which makes the plan site-specific. Also, Palmdale's corporate boundaries and Planning Area have been determined by legal processes. They cannot be readily adjusted or moved.

The No-Project Alternative is the continuation of existing baseline conditions before implementation of the proposed General Plan. It is the existing condition of the Palmdale Planning Area to date, as described in

Section 3, Environmental Setting. As discussed in Section 9.1, this alternative is not realistic because it does not allow for future growth in the City and surrounding communities. Even if the impacts of this alternative would be less than all of the impacts of the proposed General Plan, it is very unlikely that the Planning Area will remain static and unchanged over the years.

The second alternative, Existing General Plan Alternative, means the continued use of the existing General Plan through buildout. This alternative would generate impacts associated with development under the existing Land Use Plan. Existing county land use designations would remain in unincorporated portions of the Planning Area. A number of changes have occurred that make the existing General Plan outdated. The City of Palmdale has expanded its Planning Area. The larger area has to be planned in its entirety rather than simply assigning a land use designation to the new area. Changes in community concerns, state law, and city goals have to be incorporated into the City's General Plan. If an update is not made, an element-by-element review, as changes happen and as the City may find necessary, would occur. This incremental update would be time consuming and costly and would result in inconsistent reviews and several revisions before all elements are consistent.

The existing land use plan would have less impact than the proposed plan on several issues, such as geology, biological resources, natural resources, public services, risk of upset, and cultural resources. This is due to the lower development capacity of the existing plan and the lower allowable density in the outer sections of the Planning Area. Where the impacts are greater than those of the proposed plan, these are attributed to the development of designated industrial areas.

The Existing General Plan Alternative is discussed in greater detail in Section 9.2, Existing General Plan Alternative.

The Low Density Land Use Plan Alternative is the third alternative considered in this document. It features a lower density land use plan and minimum development in the outer sections of the Planning Area. This alternative would not alter the natural environment as much as the proposed plan. It would also require less water and energy resources to support development at buildout. The Low Density Land Use Plan Alternative represents the potential impacts of a lower development capacity overall and low intensity uses on the hillsides, Little Rock Wash, and around the USAF Plant 42 and the proposed regional airport. It is considered the

environmentally superior alternative because it will have fewer impacts than the proposed General Plan, the Existing General Plan, and the No Project Alternative.

Under the Urban Boundary Alternative, the land uses identified for the proposed plan would be implemented; however, an urban boundary limit would be placed on the land use map. This limit would delineate the extent of urban development; development outside the line would be discouraged. This concept would reduce the sprawling effect that often occurs with development of an area. The implementation of this alternative would result in the same impacts as the proposed plan at buildout. However, many of the impacts would be delayed until later in the buildout process with the use of an urban boundary concept. For example, impacts to biological resources in the outlying areas would be reduced until development reaches those locations. Therefore, existing biological systems would remain intact for longer periods of time.

The Future Update Alternative assumes that a general plan update at this time is not necessary; the update could be postponed to a future date. Because this alternative assumes that a change will occur in the future, it is not possible to determine a buildout condition for the Planning Area. Therefore, the analysis of the Future Update Alternative can only be qualitative.

This alternative is similar to the Existing General Plan Alternative in that it would allow development to continue under the existing General Plan. However, this alternative assumes that the existing plan would be updated before the Planning Area is built out. Therefore, until such time as the update would occur, the impacts from this alternative would be the same as those identified in Section 9.2. If the future general plan update adopted a plan proposing significantly less development than the proposed plan, then the overall impacts of this alternative would be less. However, because it is difficult to speculate on future actions, it is impossible to determine the magnitude of impacts associated with the selection of this alternative.

1.2 SUMMARY

A summary of the environmental impacts of the proposed General Plan and recommended mitigation measures is presented in Table 1-1. The environmental analysis concludes that there will be significant adverse impacts with adoption of the plan; however, mitigation measures identified in the EIR will reduce most of the impacts

of future development under the proposed plan to a less than significant level. The level of significance after mitigation for biological resources, earthquake hazards, and air quality will remain significant at buildout. Significant traffic impacts will remain at eleven roadway segments. Despite these impacts, the proposed plan represents a balance in the community for the protection of the environment and the accommodation of growth pressures in the area.

The General Plan and Program EIR are separate documents although they overlap extensively. They address the same issues and may contain the same implementation programs. This is because the goals and policies contained in the different elements of the General Plan identify measures that will accommodate growth and foster protection of the environment and natural resources.

Policies contained in the proposed General Plan signify the City's intent to protect the natural environment and minimize the disruption of biological systems. They call for adequate public services and infrastructure to support development and promote public health, safety, and welfare. The majority of the policies and implementation programs in the proposed General Plan serve as mitigation measures for the potential environmental impacts of buildout under the proposed plan. The goals and policies of the eight General Plan elements are included as Appendix D. Relevant policies and implementation programs are listed as mitigation measures for the appropriate environmental issue areas in Section 4 of this EIR.

TABLE 1-1

SUMMARY CHART

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
GEOLOGY		
Future development under the proposed land use plan will both impact, and be impacted by, the area's geology. Development is of particular concern in areas with slopes exceeding 25 percent. Areas of soil expansion, erosion, infiltration, subsidence and hydrocompaction may also significantly impact development. As the Planning Area is situated within a seismically active region, the risk to residents due to earthquakes, and related groundshaking and liquefaction, is considered significant. The proposed General Plan includes standards and programs to restrict development on these areas and reduce hazards to residents.	The Safety Element contains guidelines and programs to reduce impacts of geologic hazards on development. These include public safety programs, existing hazardous buildings inventory, relocation/rehabilitation programs, geologic investigation, construction and land use standards, special study zones, volunteer training programs, emergency management, public information and education, City emergency preparedness plan, emergency shelters, mutual aid, emergency funds, development review, zoning ordinance/land use plan, building and seismic codes, CEQA review, public records of hazards, public safety standards for construction and development, hillside development standards, and land use planning.	Geologic hazards will be mitigated to an insignificant level. However, earthquake hazards due to the Planning Area's proximity to the San Andreas Fault will remain significant.
AIR QUALITY		
Expected population growth will increase air pollutants associated with short-term construction activity and in long-term emissions associated with new	The Environmental Resources Element and Circulation Element contain goals, policies, and implementation measures to maintain air quality while	Air quality degradation due to future development in the area will be reduced by the achievement of goals and implementation programs

TABLE 1-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
AIR QUALITY (continued)		
stationary sources, vehicular traffic, airport operations, railroad operations, utility use, and service facilities. Levels of pollutant emissions in the Planning Area will exceed national and state standards of clean air unless anti-pollution programs are established.	accommodating growth. Transit improvements, transportation systems management programs, and other trip reduction methods, and plans and policies of the General Plan will be required for individual developments. Traffic and transit improvements that would reduce air emissions are included in the Circulation Element.	contained in the City's Environmental Resources Element and Circulation Element. However, the amount of development anticipated under the proposed land use plan and the number of vehicle trips resulting from development allowed under the General Plan will produce air emissions that cannot be mitigated to less than significant levels.
WATER RESOURCES		
Future development will result in the increase of impervious surfaces (buildings and pavement) that prevent absorption of groundwater and increase the potential for flooding. New commercial and industrial uses would also contribute to potential urban runoff contamination. Increases in development intensify the demand for both groundwater and aqueduct resources to supply the needs of future residents and development. The California Water Project's inability to deliver current water entitlements places a greater dependency on	The Safety Element contains a number of policies and programs that will reduce the future impacts on water resources. These include CEQA review, mining standards, landscaping standards, groundwater recycling and reuse, Master Drainage Plan, water quality monitoring, water conservation techniques, public information and education, City emergency preparedness plan, public records of hazards, regional coordination, floodplain development standards, and land use planning. In addition, implementation of measures for water conservation and recycling, recharge of the groundwater	Development will continue to place greater demands on local groundwater resources. If water conservation and recharge programs are successful, no significant impacts to water resources will remain after mitigation. Implementation of landscaping, drainage, and safety programs will reduce potential flooding impacts to less than significant levels. Cumulative impacts to groundwater resources could be significant.

TABLE 1-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
WATER RESOURCES (continued)		
groundwater resources. The future availability of additional water from the California Water Project has not been determined at this time.	basins, and preservation of groundwater resources will mitigate adverse impacts. Programs in the Environmental Resources Element, and the Public Services Element will reduce impacts on water resources and flooding potential in the area.	
BIOLOGICAL RESOURCES		
The proposed land use plan designates residential, commercial, and industrial land uses in the Planning Area. Ecological systems will be disrupted by the intensification of development on the natural desert environment, and open space, vegetation, and habitat will be lost. Development of these areas will significantly impact biological resources in currently undeveloped areas.	The implementation programs of the Environmental Resources Element provide development standards for sensitive ecological areas and for preservation of open space and biological communities. These programs include preservation of native desert vegetation, landscaping standards, mining standards, and open space and conservation plans. Measures to maintain species diversity and avoid the loss of sensitive plants and animals have been outlined. Directed surveys for any development in SEA overlays, acquisition of wetland areas, preservation of drainages, and the maintenance of Joshua tree woodlands and other significant habitat areas are also programs of the City to reduce biological impacts.	The destruction and displacement of biological resources in the Planning Area will remain significant even after mitigation measures are implemented.

TABLE 1-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
NATURAL RESOURCES		
The proposed land use plan anticipates continuous urbanization of the Planning Area which will impact natural resources in the area. Development may identify additional resources, limit access to underground resources, allow immediate use of the resources, or destroy them. The spread of urban development in proximity to quarry operations could reduce areas available for resource extraction and limit operations. Development of existing vacant areas will result in a loss of open space which will result in a loss of vegetation and habitat.	The Land Use Element and Environmental Resources Element contain policies and conservation programs to reduce the impacts of development on natural resources in the Planning Area. These programs include establishment of a mineral resource extraction land use designation, performance standards for sensitive ecological areas, reclamation plans for mining operations areas, mining standards, open space network and design features, development clustering standards, hillside ordinance, open space and conservation plan, parkland or open space dedication, and CEQA review.	With implementation of mitigation measures, impacts on mineral resources will be reduced to a less than significant level. The loss of open space resulting from development allowed under the proposed plan will remain significant even with implementation of mitigation measures.
LAND USE		
The designations in the Land Use Element cover 111,527 acres. The proposed plan features new land use designations and the intensification of land use. Buildout at target capacity will mean the development of approximately 139,205 dwelling units; 51.8 million square feet of commercial land use; 613 million square feet of industrial land; and 3.8 million	The following measures in the Land Use Element are designed to address land use distribution, capacity, and compatibility issues: General Plan land use map, zoning consistency, City development code, downtown overlay district, development review process, special development areas, coordination of land use decisions,	With implementation of mitigation measure, impacts on land use distributions and compatibility would be reduced to a less than significant level.

TABLE 1-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
LAND USE (continued)		
square feet of public facility land use. Open Space and parks will account for 9,458 acres in the Planning Area. Land use conflicts may occur in the following areas: between the West Alpine Butte Sanctuary park and surrounding industrial uses; between the business park area between Avenue Q and Avenue P and adjacent low density residential areas; residential areas surrounding landfill sites; quarrying and mining activities on Little Rock Wash and surrounding residential uses; residential uses adjacent to the airport and related uses, business park, and industrial land use; residential uses adjacent to regional commercial at the intersection of Fort Tejon Road and Avenue T; residential uses adjacent to business park at the intersection of Pearblossom Highway and Sierra Highway; residential uses adjacent to the railroads and Antelope Valley Freeway; the Industry Trade Center and adjacent equestrian residential areas; and the residential uses within the San Andreas Rift Zone. With approximately 80 percent of the area currently vacant, development will increase by more than six-fold the existing urban uses.	annexations, air quality, community outreach, economic development, redevelopment, and subsequent review.	

TABLE 1-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
LAND USE (continued)		
Future development will provide more housing and jobs for Palmdale and the Antelope Valley, and will increase service demands.		
POPULATION		
The existing 1992 population of the City of Palmdale is 84,238 residents and the population of the Planning Area is estimated at over 100,000 people. The proposed land use plan will increase the dwelling unit capacity in the Planning Area to 139,205 units with a resident population of 441,280 persons at target buildout. This is 5.2 times the existing population of the City. Impacts associated with growth include increased demand for public services and infrastructure, urban use of existing open space areas, disturbance of natural vegetation and wildlife habitat, traffic generation, and increased in noise and air pollution. Increased capacities for commercial and industrial development in the Planning Area will increase employment growth, resulting in a substantial jobs/housing imbalance if	The impacts of population growth are associated with the impacts of urbanization and development. They include changes in geology, air quality, land use, biological resources, natural resources, light, noise, aesthetics, traffic, and public services. Mitigation measures are discussed under each issue area in this EIR. A strategy for achieving a jobs/housing balance should be introduced to reduce traffic impacts, noise, air pollution, and other effects of jobs/housing imbalance. Future annexations to the City, outside the current Planning Area, should be encouraged for residential development to help alleviate the anticipated job-rich condition at buildout, should it appear that nonresidential development is occurring at a rate to facilitate such a job-rich condition.	Most impacts of population growth would be mitigated to less than significant levels. However, a significant impact on jobs/housing balance would remain after mitigation.

TABLE 1-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
POPULATION (Continued)		
employment growth is not matched by adequate housing development.		
HOUSING		
The 1992 housing stock in the City of Palmdale is 29,348 units and the 1992 housing stock for the Planning Area is estimated at over 35,000. At buildout, the proposed land use plan has a capacity for approximately 139,205 dwelling units. This is 4.7 times more than the existing stock in the City. Housing development will require the provision of support services and infrastructure. Housing availability will provide a competitive market and greater opportunity for housing ownership and affordable units. However, the low densities established in the proposed land use plan may make production of affordable housing difficult. With the increase in nonresidential development exceeding growth, the local labor market may provide more jobs than can be filled by local residents.	New housing development; ordinances for density bonus, second units, alternate housing types, and condominium conversion standards; minimum residential standards; programs for inclusionary housing, first-time homebuyers, housing set-asides, mortgage revenue bonds, replacement and affordable housing land banks, redevelopment loans, rental and replacement housing construction, housing impact review, habitability standards; handiworkers/housing repair; participation in rental rehabilitation programs; programs for mobile home rent control, lease terms, and rehabilitation; programs to improve neighborhood quality, provide tenant assistance; housing needs assessment and special needs site review; involvement with federal, county and regional programs; programs for senior housing, dependant, homeless persons and the disabled are all proposed in the Housing Element in order to reduce impacts on housing.	A significant impact on jobs/housing balance in the Planning Area will remain after implementation of mitigation measures.

TABLE 1-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
TRAFFIC AND CIRCULATION		
The Circulation Element supports the proposed land use plan. The circulation plan proposes to upgrade many roadways to major urban arterials, anticipates new and expanded freeways and utilizes transportation demand management measures. Buildout under the proposed plan will result in 13 roadway segments operating at LOS D or E. Population growth will increase the demand for public transit services and commercial air service. Use of bicycle routes, equestrian trails, and truck routes will also increase.	The impacts of the proposed plan on traffic and circulation shall be mitigated through policies and implementation programs set forth in the Circulation Element, including the adoption and implementation of a street and highway plan designed to meet existing and future circulation needs through programs such as street and signalization improvements, the upgrading of streets to urban arterials, promote regional arterial links, maintain a city traffic model, and the use of transportation demand management measures.	The efforts prescribed in the Circulation Element, in addition to the policies contained in the proposed Land Use Element and other elements, would mitigate a majority of the traffic impacts. However, 11 roadway segments will be operating at LOS D or worse at buildout. Traffic impacts will remain significant after mitigation.
PUBLIC SERVICES		
Fire Protection		
Fire protection demand will generally increase with the rate of development. A higher population density will result in a greater potential for fires due to man-made causes.	The Public Services Element includes the following policies and implementation measures to reduce impacts on fire protection services: coordination with the Los Angeles County Fire District, CEQA review process, service commitment for new	No significant impacts after mitigation.

TABLE 1-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
PUBLIC SERVICES (continued)		
Fire Protection (continued)		
	development, development plan review, enforcement of building codes, and public awareness programs.	
Police Protection		
The anticipated increase in development density and population that will accompany future growth in the Palmdale area will result in the increasing need for law enforcement and police protection.	The Public Services Element includes the following policies and implementation measures to reduce impacts on police protection services: coordination with the Los Angeles County Sheriff's Department, CEQA review process, service commitment for new development, development plan review, enforcement of building codes and public awareness programs.	No significant impacts after mitigation.
Schools		
The proposed land use plan increases the development capacity of the Planning Area which will produce a larger student population and a need for expanded facilities. The proposed land use plan has a target capacity 139,205 dwelling units. This could generate an elementary student population of 50,847 students and a high school	Policies and implementation measures included in the Public Services Element that will help mitigate the impacts on schools are: new development fair share requirement, development review process, school site plan review, joint use of school and city park facilities, promote higher education opportunities, preschool and day care programs,	No significant impacts after mitigation; however, significant impacts will remain until new programs are enacted and new school facilities offset existing deficiencies.

TABLE 1-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
PUBLIC SERVICES (continued)		
Schools (continued)		
population of 78,688 students. If the average elementary school capacity is 700 students, 78 elementary schools would be needed in the area's five school districts. An average high school capacity of 2,000 students would mean a need for 14 high schools at target buildout.	continuing education, data collection, CEQA review process, service commitments for new development, development plan review, and coordination with school districts.	
Parks and Recreation		
The proposed land use plan designates 1,554 acres of parks and recreation for the estimated 441,280 residents of the Planning Area at its target capacity. In order to provide adequate parkland to the standard population ratio of 2 acres per 400 persons, the plan needs an additional 652 acres of parkland.	The Public Services Element includes the following policies and implementation measures related to parks and recreation: new development fair share requirement, park facilities standards, user impact fee programs, public financing, park acreage standards, park acquisition master plan, public input on park design, parks/flood control joint use, data collection, CEQA review process, service commitments and facilities fees and charges for new development.	No significant impacts after mitigation.
Library Services		
The increase in the Planning Area may not directly have an impact on library services in the area. However, development of residen-	Policies and implementation measures included in the Public Services Element that will help alleviate the impacts on libraries	No significant impacts after mitigation. However, because of existing deficiencies, impacts will remain significant until new and

TABLE 1-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
PUBLIC SERVICES (continued)		
Library Services (continued)		
tial land in the City will increase the demand for city library services. Target buildout of the Planning Area will require approximately 1.1 million book volumes, 2,205 reader seats, a staff of 221, and 353,204 square feet of library space.	are: user impact fee programs, public financing, satellite service need evaluation, library system planning, library service standards, coordination with county library system, construction and expansion of libraries, library outreach services, data collection, CEQA review process, service commitment for new development, capitol improvement plan, development plan review, master facilities plan, and library master plan.	expanded facilities are implemented.
Hospital Services		
Projected population growth in the Planning Area will increase the demand for hospital services.	Policies and implementation measures included in the Public Services Element that will help alleviate the impacts on hospitals are: public financing, satellite service need evaluation, balanced development, coordination of health care programs, data collection, CEQA review process, and new development fees and charges.	No significant impacts after mitigation.

TABLE 1-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
PUBLIC UTILITIES		
Water Services		
An increase in future development will result in a greater demand for water. At target buildout, it is anticipated that the Planning Area will require 135.93 million gallons of water per day. Local groundwater resources comprise 50 percent of the water use, with State Water Project entitlement as the other 50 percent. Groundwater resources are overdrafted which has put a greater demand for the use of State Water entitlement. The State Water Project may cut back water deliveries if drought conditions persist. Aside from water availability, the overlapping of service districts has resulted in inefficiencies in water provision.	The implementation programs of the Public Services Element include: construction, fair share contribution and/or coordination of infrastructure for new development; phasing and master plan for infrastructure; maximum utilization of existing infrastructure; update Capital Improvement Plan; user and impact fee programs; public financing; coordination with street construction; development review process; promote water conservation; water needs study; reclaimed water use; data collection; CEQA review process; service commitment for new development; development plan review; master facilities plan; and facility fees and charges.	Implementation of city programs will minimize the impact on water services, but not eliminate it. However, city requirements to make project approvals contingent upon water availability will reduce impacts on water service in the Palmdale Planning Area to a less than significant level.
Sewer Services		
The proposed plan at target buildout is expected to generate approximately 112.9 million gallons per day of sewage. The existing sewage treatment plants will not be able to accommodate more than the current sewage flow. New facilities would need to be provided to serve develop	The Public Services Element includes the following policies and implementation measures related to sewer services: construction, fair share contribution and/or coordination of infrastructure for new development; phasing and master plan for infrastructure; maximum utilization of existing	The implementation of City programs will reduce impacts to a less than significant level.

TABLE 1-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
PUBLIC UTILITIES (continued)		
Sewer Services (continued)		
ments as they occur. Service boundaries need to be expanded to serve the entire Planning Area.	infrastructure; update Capital Improvement Plan; user and impact fee programs; public financing; retrofit sewers; coordinations with the County Sanitation District; public sewer system requirements; master-planning; development review process; promote water conservation; water needs study; reclaimed water use; data collection; CEQA review process; service commitment for new development; and development plan review.	
Solid Waste Disposal		
Solid waste generation at target buildout is estimated at 3,562 tons per day. Because of recent approvals to expand the facility, the existing Antelope Valley Landfill has adequate capacity to handle the disposal needs at buildout.	The Public Services Element includes the following policies and implementation measures related to solid waste: user impact fee, public financing, master planning, Solid Waste Management Plan, and hazardous waste programs; data collection; CEQA review process; service commitment for new development; and development plan review.	The implementation of City programs will reduce impacts to a less than significant level.

TABLE 1-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
PUBLIC UTILITIES (continued)		
Storm Drainage		
Development under the proposed land use plan will require the construction of storm drainage facilities throughout the Planning Area to mitigate any potential flooding problems. The proposed land use plan will change the requirements for storm drainage facilities in the existing Master Drainage Plan in terms of location and sizes. Storm drainage requirements are expected to change where residential land uses change from low to higher density and from residential uses to commercial or industrial uses. The Circulation Element will provide right-of-ways for construction of new drainage lines serving the Planning Area.	The Public Services Element includes the following policies and implementation measures related to storm drainage: construction, fair share contribution and/or coordination of infrastructure for new development; phasing and master plan for infrastructure; planning and joint use of drainage detention facilities; maximize utilization of infrastructure; Capitol Improvement Program; user and impact fee, public financing; data collection; CEQA review process; development plan review; Master Drainage Plan; and floodplain standards.	Implementation of City programs will reduce impacts to a level of insignificance.
Power		
Power consumption at the target buildout of the proposed land use plan is estimated at 6,731.9 million Kwh per year. Although the Southern California Edison Company receives power from interstate sources, future development will continue to deplete these nonrenewable resources.	The Public Services Element includes the following policies and implementation measures related to electrical power: construction, fair share contribution, coordination and/or maintenance of infrastructure for new development; master plan for infrastructure; regulation of infrastructure placement; installation along streets; data	No significant impacts after mitigation.

TABLE 1-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
PUBLIC UTILITIES (continued)		
Power (continued)		
	collection; CEQA review process; service commitment for new development; development plan review; and public awareness programs.	
Natural Gas		
Target buildout of the Planning Area will result in the consumption of approximately 2,984 million cubic feet of natural gas per month. This will add to the depletion of natural gas resources and the need for additional utility lines and facilities throughout the Planning Area.	The Public Services Element includes the following policies and implementation measures related to natural gas: construction, fair share contribution, coordination and/or maintenance of infrastructure for new development; master plan for infrastructure; regulation of infrastructure placement; installation along streets; data collection; CEQA review process; service commitment for new development; development plan review; and public awareness programs.	No significant impacts after mitigation.
Telephone		
Target buildout of the Planning Area will require the provision of telephone service to serve all developments. New lines, facilities, and employees may need to be provided to ensure this service.	The Public Services Element includes the following policies and implementation measures related to natural gas: construction, fair share contribution, coordination and/or maintenance of infrastructure for new development; master plan for infrastructure; regulation of infrastructure placement; installation along streets;	No significant impacts after mitigation.

TABLE 1-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
PUBLIC UTILITIES (continued)		
Telephone (continued)		
	data collection; CEQA review process; service commitment for new development; development plan review; and public awareness programs.	
Cable		
The demand for cable television will increase as development occurs. New lines and expanded facilities will have to be provided throughout the Planning Area.	The Public Services Element includes the following policies and implementation measures related to natural gas: construction, fair share contribution, coordination and/or maintenance of infrastructure for new development; master plan for infrastructure; regulation of infrastructure placement; installation along streets; data collection; CEQA review process; service commitment for new development; development plan review; and public awareness programs.	No significant impacts after mitigation.
RISK OF UPSET		
Earthquakes		
Additional emergency planning for the City will be needed as part of the new Planning Area is within an Alquist-Priolo special study zone. Development under	The Safety Element establishes standards and implementation programs to mitigate hazards associated with earthquakes that include: public information and education programs, City	The existence of the San Andreas Fault within the Planning Area will continue to present earthquake hazards to residents of Palmdale and neighboring communities. The potential for

TABLE 1-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
RISK OF UPSET (continued)		
Earthquakes (continued)		
the proposed land use plan will result in exposure of new residents to earthquake hazards in the Planning Area. Human injury and property damage will be extensive during a major earthquake.	emergency preparedness plans, CEQA review, public records of hazards, regional coordination, floodplain development standards, land use planning inventory of hazardous buildings, geologic investigation and construction standards for new development, special study zones, mutual aid, emergency funds, and enforcement of building and seismic codes.	harm and damage from a major earthquake on the fault cannot be reduced to a level of insignificance.
Aircraft Accident		
The risks associated with the continued operation of the USAF Plant 42 and the proposed regional airport will increase with the expansion of Palmdale's Planning Area due to increased density in the area. The proposed land use plan will have a significant impact on risk to residents due to higher intensity development. Land uses in the aircraft crash zones will be exposed to the risks of aircraft accidents.	The Safety Element includes the following measures to reduce risks related to aircraft accidents: new development compliance with FAA regulations and Accident Potential Zones; potential redevelopment of incompatible uses in overflight areas; review new projects for conformance with Joint Land Use Committee (JLUC) policies.	With implementation of the mitigation measures, the impact of aircraft accident hazards would be reduced to a less than significant level.
Hazardous Materials		
Industrial development under the proposed land use plan will increase the potential for hazardous materials use and	The Safety Element includes the following measures to reduce risks related to hazardous materials: coordination with Los Angeles	No significant impacts after mitigation.

TABLE 1-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
RISK OF UPSET (continued)		
Hazardous Materials (continued)		
hazardous waste generation. The risks associated with the accidental release of hazardous material/wastes or contamination will be proportional to the amount of use in the Planning Area.	County Fire Department, identification of hazardous waste generators or contaminated sites, clean-up of sites, land use restrictions, routing of hazardous materials transportation, compliance with state legislation and city ordinance for all hazardous waste facilities, Hazardous Waste Management Plan, and hazardous waste disposal programs.	
NOISE		
Noise impacts will be continuous and incremental as Palmdale develops. Vehicular traffic and noise will increase due to population growth. Commercial flights at the Palmdale Regional Airport will generate noise and railroad traffic and industrial uses will also generate noise. Development along highways and railroad corridors will expose more persons to noise.	The Noise Element includes the following measures to reduce noise impacts: acoustical analysis reports to determine land use compatibility, adoption of a noise ordinance, review new development for conformance with the Joint Land Use Committee (JLUC) policies, support Airport Land Use Commission (ALUC) planning, coordination with agencies and developers to reduce noise impacts to sensitive land uses, maintain map of noise sources and receptors, and use of acoustical design during construction.	Implementation of mitigation measures would reduce noise impacts to a level less than significant for most areas in the City. However, existing and proposed sensitive land uses located near the airport, railroad, or major roadways may be exposed to significant noise impacts.

TABLE 1-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
LIGHT		
Implementation of the proposed land use plan will allow more intensive development than the existing land use plan and may result in light and glare impacts.	The proposed Community Design Element will contain measures which will reduce light impacts caused by new construction. Mitigation measures to reduce glare and artificial light impacts will be required of individual projects.	No significant impacts after mitigation.
AESTHETICS		
New development in Palmdale and in the Planning Area has the potential to alter existing viewsheds and the views from existing scenic highways. Community design will also be affected by future development. Urban land uses will expand to new areas of the City and will extend into the foothills and mountains, replacing the vacant desert land and altering existing rural or small town settings.	The proposed Community Design Element will reduce the negative aesthetic impacts associated with urbanization. Implementation programs could include the use of landscaping standards, specific plans, hillside development standards, scenic highways, native desert vegetation ordinance, and site plan review. These programs will help protect the aesthetic quality of the natural environment and create a community identity for the City.	No significant adverse impacts after mitigation.
CULTURAL RESOURCES		
Development of the Planning Area will mean that more areas that are currently low density and likely to contain cultural resources will be disturbed. A higher	Mitigation measures needed to preserve the area's cultural resources include awareness programs and predevelopment studies, surveys, and preservation	Full implementation of mitigation measures will reduce impacts of development on the area's cultural resources to a less than significant level.

TABLE 1-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
CULTURAL RESOURCES (continued)		
development density will increase development of these areas and increase impacts to cultural resources. As buildout of the General Plan proceeds, more cultural resources will be lost due to grading and the proximity of urban development.	or salvage plans.	

SECTION 2

PROJECT DESCRIPTION

2.1 PROJECT LOCATION

The City of Palmdale is an approximately 78-square-mile area in the northern portion of Los Angeles County. It has an irregular boundary with unincorporated areas of the County on the east, south, and west and the City of Lancaster on the north. Within the city boundaries, there are several unincorporated territories which are functionally "islands" under county jurisdiction. The Planning Area, including both the City of Palmdale and surrounding unincorporated county areas, covers approximately 174 square miles generally from 110th Street West to 120th Street East and from Avenues L and M on the north to Avenue S, Barrel Springs Road, and the mountain ranges on the south. The Antelope Valley Freeway (SR 14) crosses the City 58 miles northeast of the City of Los Angeles. Exhibit 2-1 shows the regional location of the Planning Area and Exhibit 2-2 shows the City and Planning Area boundaries.

Palmdale is located in the southwestern portion of the Antelope Valley in the Mojave Desert just to the north of the San Gabriel and Sierra Pelona Mountains. Elevations range from 2,450 feet to 2,700 feet above sea level, with surrounding mountains rising to 4,000 feet above sea level. The topography varies from almost flat with occasional drainages on the valley floor to steep foothill and mountain areas on the south. The large, undeveloped areas on the valley floor and the Angeles National Forest on the south and west of the Planning Area provide the valley with vast areas of open space. Natural drainage courses run north and northeast across the Planning Area toward the Rosamond and Rogers Dry Lakes. The largest of these courses is Little Rock Wash, which originates in the San Gabriel Mountains and crosses the eastern edge of the Planning Area. The Big Rock Wash also originates in the San Gabriel Mountains and crosses the eastern edge of the Planning Area. The Anaverde and Amargosa Creeks run along the western section of the City, from their origination point in the Sierra Pelona Mountains.

The climate in the area is characteristic of the southern Mojave Desert. The intervening mountain ranges block cool, moist coastal air and create hot, dry summers and cold winters. Seasonal rains (thunderstorms) are common, but creeks are dry during the warmer months. Mean temperatures range from 18°F in January to

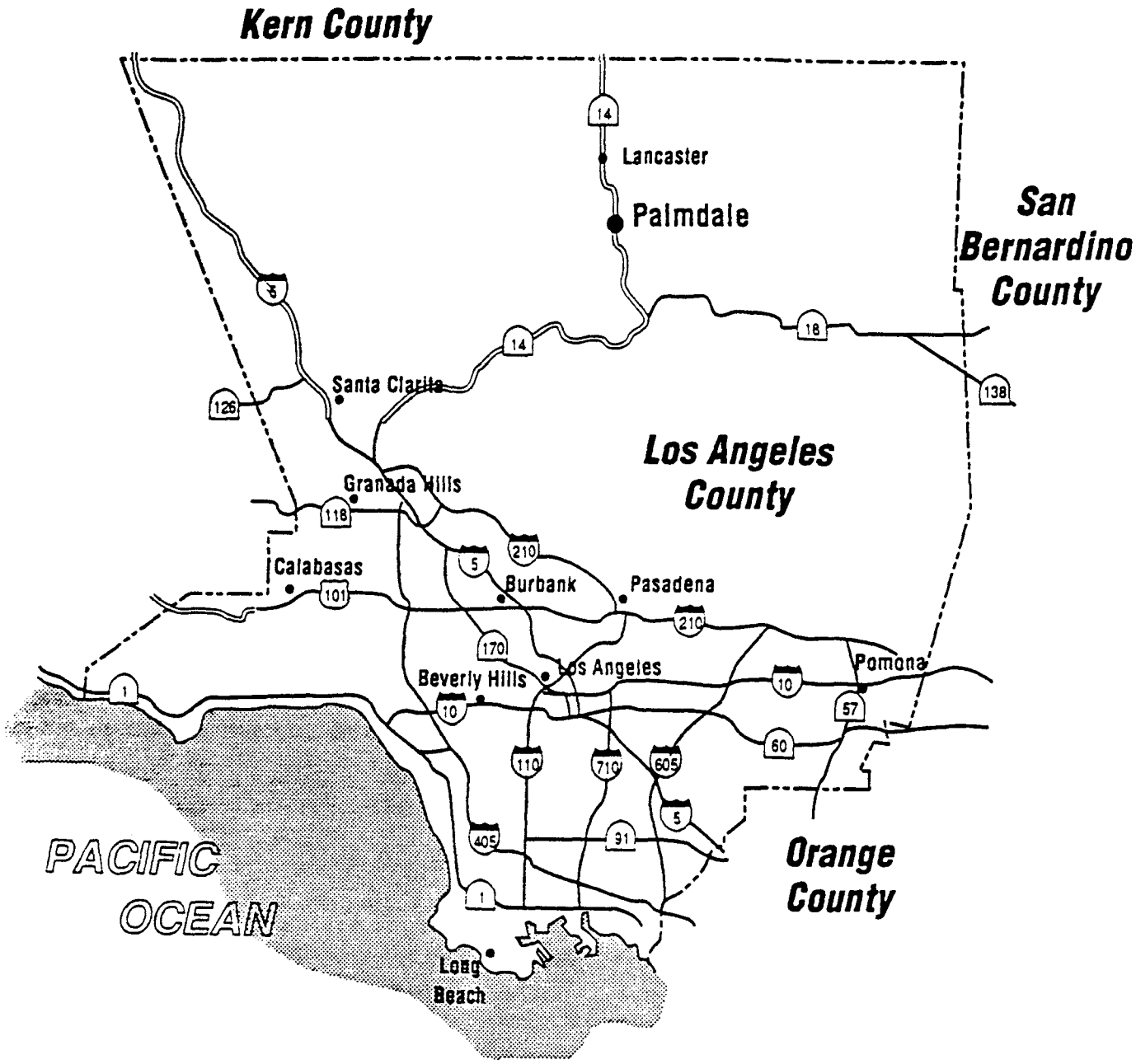
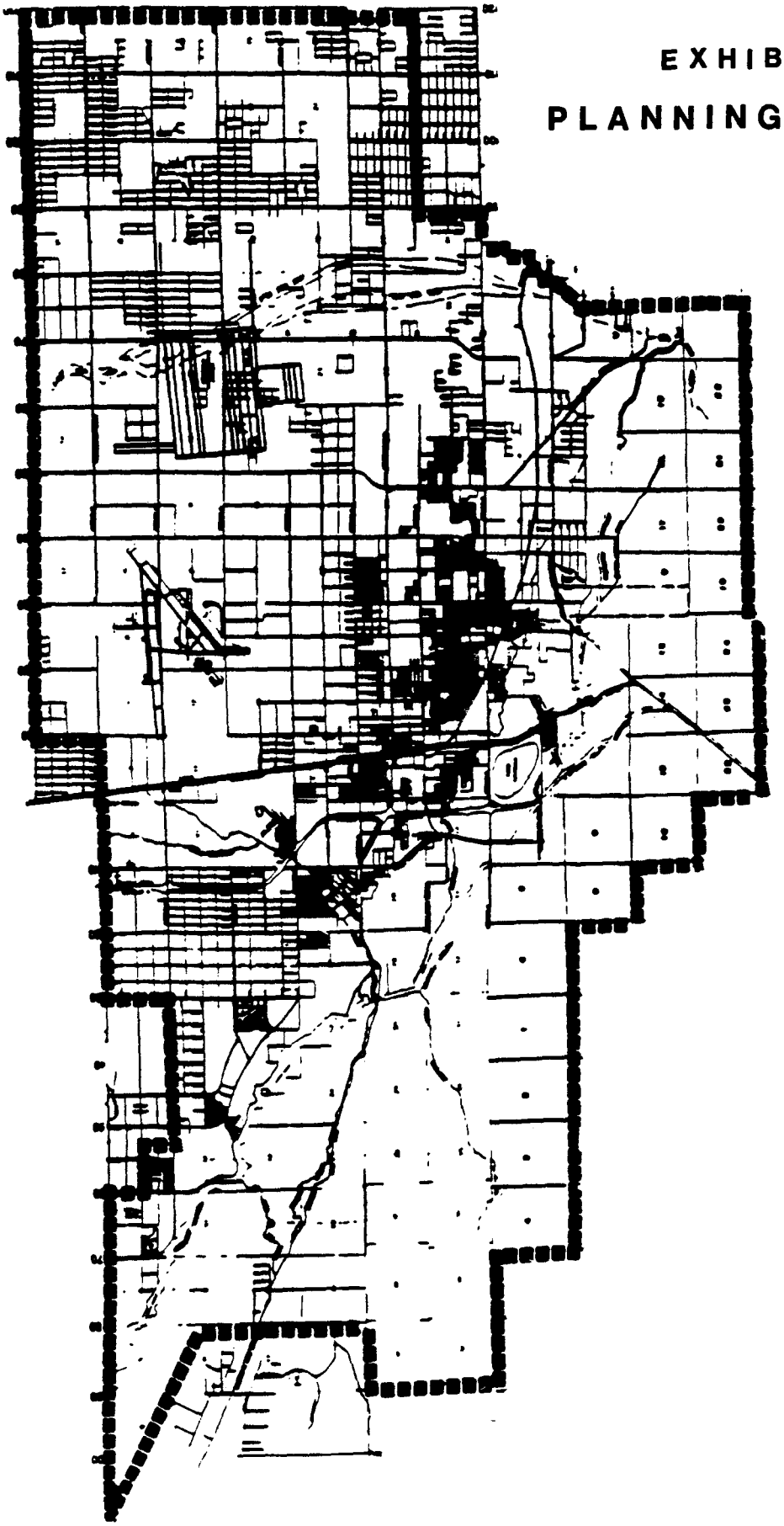


EXHIBIT 2-1

Regional Location
Palmdale General Plan

EXHIBIT 2-2

PLANNING AREA



108°F in July, with a daily average range of 46°F to 77°F. Annual rainfall ranges from 5 to 11 inches and occasional snow can be expected during winter.

The street system in the Planning Area is primarily a grid with 1-mile intervals matching the Township-Range System. Secondary streets run parallel to the main arterials within the grid. Division Street serves as the boundary between east and west sections of the City. The Antelope Valley Freeway, Sierra Highway, and Southern Pacific Railroad cut through the City in a north-south direction near Division Street. Due to its size and location, USAF Plant 42 interrupts the street pattern east of the freeway between Avenues P and M. The steep slopes south and west of the Planning Area are not generally adaptable to the grid pattern. The California Aqueduct runs just to the north of, and almost parallel to, the mountain ranges.

Development in the City was historically centered around Palmdale Boulevard and Avenue R and Division Street and 20th Street East. More recent developments have created a checkerboard pattern, with housing tracts in outlying areas. Commercial areas are generally located along Palmdale Boulevard and the Antelope Valley Freeway. Industrial uses are grouped around USAF Plant 42 and the Southern Pacific Railroad between Avenues O and S. Residential developments cover a wider area with higher densities near the city center and large lots further out. The neighboring communities of Quartz Hill, Leona Valley, Littlerock, Lake Los Angeles, and Lancaster help define the major development centers and the city's urban core.

Existing development in Palmdale is supported by public services provided by city, county, and private agencies. The City has its own public library and county libraries serve outlying areas. There are city parks and recreational facilities as well as county parks within the Planning Area. Los Angeles County agencies and private agencies provide service, main lines, reservoirs and treatment plants for water and sewer services. Sewer service is available in parts of the Planning Area through Los Angeles County Sanitation Districts 14 and 20. The City contracts with the Los Angeles County Sheriff's Department for police protection services and the Los Angeles County Fire Department provides fire protection services for the City.

The Antelope Valley Landfill, a private landfill, provides for the solid waste disposal needs of the area. There are a number of private water companies serving the Planning Area together with the Los Angeles County Waterworks Districts 4, 24, 27, 33, and 34. Water is pumped from groundwater wells and bought from the

California Aqueduct directly or through the Antelope Valley-East Kern Water Agency (AVEK). The Southern California Gas Company and the Southern California Edison Company provide natural gas and electric power, respectively. Pacific Bell and General Telephone provide telephone services to the Planning Area. Seven different school districts serve the Planning Area: Palmdale School District, the Westside Union School District, the Eastside Union School District, the Keppel Union School District, the Lancaster School District, Lake Elizabeth-Lake Hughes School District, and the Soledad-Agua Dulce School District. The Antelope Valley High School District and the Antelope Valley Community College also serve the entire Planning Area. These public services and utilities are discussed in detail in Sections 3.10 and 3.11 of this EIR.

According to the State Department of Finance (DOF), the population of the City of Palmdale in 1992 was 84,348 persons. This represents an increase of 72,071 persons since the 1980 Census count of 12,277 persons. Table 2-1 shows historic population growth in the City. Projections for future growth range between 6,300 and 9,500 persons year, based on recent housing growth of 2,000 to 3,000 units per year, and an average household size of 3.17 persons per household. This rapid growth in population is partially due to increases in the physical size of the city (through annexations) and the rapid development of new housing.

TABLE 2-1

POPULATION GROWTH

Year	Population	Annual Growth Rate
1965	7,476	
1970	8,511	2.77%
1975	11,400	6.79%
1980	12,277	1.54%
1985	25,593	21.69%
1990	68,842	33.80%
1991	78,046	13.37%
1992	84,348	8.07%

Source: City of Palmdale Housing Element, based on State Department of Finance.

The City of Palmdale's population projection for the year 2010, based on an average growth of 3,000 units per year, results in a resident population of 264,216 persons. At the buildout of the proposed General Plan, the resident population would be 441,280 persons, based on the projected number of housing units and typical densities.

The rapid population growth has been followed by the development of commercial and support services to serve the resident population. An increase in employment opportunities has also been observed and is expected to parallel growth in the Antelope Valley. Estimated employment generated by new commercial and industrial development in Palmdale by the year 2010 is 61,353 jobs. At the buildout of the General Plan, estimated employment would provide 601,900 jobs.

Housing development has experienced the greatest increase in the Planning Area. Data from the State Department of Finance show a 390 percent increase in housing stock from 1980 to 1990. Housing growth in the near future is projected to expand the present stock to 83,349 dwelling units by 2010 and at target full buildout, housing unit capacity would be 147,803 units.

Within this setting, its resources, and possibilities, the City of Palmdale is revising its General Plan to better address present concerns and to plan for its future.

2.2 PROJECT DESCRIPTION

The proposed project is an update of the General Plan for the City of Palmdale. The proposed General Plan consists of eight elements which will be covered by this EIR.

- Land Use: Establishes a land use plan for the City, as influenced by land characteristics, development constraints, and existing developments.
- Circulation: Provides a circulation plan to support the land use plan.
- Housing: Contains a program for providing adequate, affordable, and accessible housing for all residents of the city.

- Public Services: Provides a tool for coordinating public services with the conservation of limited resources.

- Noise: Analyzes noise problems in the Planning Area and establishes programs to minimize impacts associated with excessive noise.

- Environmental Resources: Contains a conservation and preservation program for open space, natural resources, recreation areas, and cultural resources.

- Safety: Establishes ways for maintaining public health and safety for residents and visitors of the City.

- Community Design (proposed): Will contain guidelines for protecting the visual qualities of the natural landscape and urban development in the Planning Area.

Additional elements, including hazardous waste management, parks and recreation, and solid waste management, will be covered by separate environmental documents.

2.3 PROJECT GOALS

In updating the General Plan, the City of Palmdale hopes to be more responsive to the collective goals of its residents, to establish ways and programs for the City to achieve these goals, to provide guidance in city actions and to comply with changes in state law. The proposed plan hopes to diversify the economy and lessen its dependence on the aerospace industry. The General Plan will provide the City with a single document with which to plan the future development of the Planning Area.

The following goals have been established by the City of Palmdale to serve as a basis for updating the General Plan and to assist public decision makers in their review of city programs and development projects.

Land Use

L1. Create a vision for long-term growth and development in the City of Palmdale which provides for orderly, functional patterns of land uses within urban areas, a unified and coherent urban form, and a high quality of life for its residents.

L2. Adopt land use and development policies which encourage growth and diversification of the city's economic base.

L3. Provide a high quality of life for all existing and future residents, meeting the needs of a variety of lifestyles.

L4. Provide opportunities for a wide range of retail and service commercial uses, to serve neighborhood, community, and regional needs and provide economic benefit to the City of Palmdale.

L5. Provide opportunities for a wide range of manufacturing and related industrial uses in the city, so as to facilitate expansion and diversification of the city's economic base and provide additional employment opportunities.

L6. Plan for and reserve land to accommodate uses needed for public benefit, including open space, recreation, public improvements, schools, and community facilities.

Circulation

C1. Establish, maintain and enhance a system of streets and highways which will provide for the safe and efficient movement of people and goods throughout the planning area, while minimizing adverse impacts on the community.

C2. Reduce the number of trips and vehicle miles traveled by individuals within the planning area, to meet regional transportation and air quality goals.

C3. Encourage use of nonvehicular transportation throughout the planning area.

C4. Promote opportunities for rail service to move goods, passengers, and commuters into and out of the planning area.

C5. Protect and promote a variety of air transportation services within the City of Palmdale.

Housing

H1. Promote the construction of new housing affordable to all income groups.

H2. Preserve and improve the existing supply of affordable housing.

H3. Increase the capacity of the city to develop and implement housing programs.

H4. Promote equal housing for all persons regardless of race, religion, sex, marital status, ancestry, national origin, color, age, or physical condition.

H5. Adequately house households with special needs.

H6. Implement energy and water conservation measures.

Public Services

PS1. Ensure that adequate public services and facilities are available to support development in an efficient and orderly manner.

PS2. Ensure that all development in Palmdale is served by adequate water distribution and sewage facilities.

PS3. Develop and maintain adequate storm drainage and flood control facilities.

PS4. Support the provision of local educational opportunities for community residents.

PS5. Support the provision of adequate public and community services to meet the needs of residents.

PS6. Ensure provision of adequate facilities and programs to accommodate solid waste and hazardous waste collection, handling, and disposal.

Noise

N1. Minimize the exposure of residents to excessive noise to the extent possible, through the land planning and the development review process.

N2. Promote noise compatible land uses within the 65 CNEL contour and the Frequent Overflight Area of U.S. Air Force Plant 42.

Environmental Resources

ER1. Preserve significant natural and man-made open space areas that give Palmdale its distinct form and identity.

ER2. Protect significant ecological resources and ecosystems, including, but not limited to, sensitive flora and fauna habitat areas.

ER3. Preserve designated natural hillsides and ridgelines in the planning area, to maintain the aesthetic character of the Antelope Valley.

ER4. Protect the quality and quantity of local water resources.

ER5. Promote the attainment of state and federal air quality standards.

ER6. Ensure an adequate supply of mineral resources, to meet long-term regional construction needs.

ER7. Protect historical and culturally significant resources which contribute to the community's sense of history.

Safety

S1. Minimizer danger and damage to public health, safety, and welfare, resulting from natural hazards.

S2. Minimize damage associated with man-made hazards.

S3. Maintain and enhance city emergency services.

S4. Protect public safety through the implementation and enforcement of city ordinances and through public education.

The land use policy map, which is an integral part of the Land Use Element, provides land use classifications for the Planning Area. The land use map (large blue-line exhibit) is the proposed land use policy map and Table 2-2 is a breakdown of the Planning Area by the proposed land use classifications.

The proposed land use plan covers a larger area than the existing plan due to the expansion of Palmdale's Planning Area boundaries. The proposed land use plan has a dwelling unit capacity of 139,205 units at buildout, which is 3.7 percent higher than of the capacity of the existing General Plan. It will allow 9,155 acres of commercial land uses, 16,526 acres of industrial land uses, and 885 acres of public facility uses. This is equivalent to a 6 percent increase in designated commercial land and a 10 percent increase in designated industrial land from the existing General Plan.

The proposed General Plan includes a modified circulation plan to support the proposed land use plan. A number of streets will be upgraded to major urban arterials to handle the projected vehicular traffic. Transportation demand management measures will be enforced to maintain levels of service at intersections and roadways at LOS C or better. The circulation plan identifies these road upgrades but does not provide a time frame for implementation. Improvements are recommended as development occurs in specific areas served by the different road segments.

The Housing Element was updated for state review in July, 1992 to address the housing needs of the City. It contains programs that would decrease overpaying households in the City and programs that would ensure the development of housing to meet future needs. It also contains programs to encourage the provision of low-income housing and special needs housing (units for handicapped, elderly, large households, etc.) and to provide equal access to housing in the City.

The Public Services Element analyzes the different public services and the agencies that provide them in the Planning Area. It evaluates the capacity of service providers to serve existing and future development and the problems that exist or may exist with further development. It sets up programs to ensure adequate provision, to improve services, and to encourage coordination between the different service agencies.

The Noise Element of the General Plan studies the existing noise environment and projects the future noise environment with development that will occur under the proposed Land Use Plan. In order to maintain acceptable noise levels and minimize the impacts of noise, the Noise Element proposes programs to control noise at the source and to buffer sensitive development from noise sources.

The Environmental Resources Element contains conservation and preservation programs for the Planning Area's natural (water, plant and animal, minerals, land, open space), recreational, and cultural (historical, archaeological, paleontological) resources. The programs call for the rational management of finite resources to assure their continued availability and use.

TABLE 2-2

PROPOSED LAND USE CLASSIFICATIONS

Land Use Classification	Total Acres	Percent
Equestrian Residential	3,583	3.21
Low Density Residential (0-1)	22,347	20.04
SF Residential (0-2)	2,239	2.01
SF Residential (0-3)	3,583	3.21
SF Residential (3.1-6)	14,330	12.85
MF Residential	2,903	2.60
Mobile Home Park	223	0.20
Office Commercial	515	0.46
Neighborhood Commercial	605	0.54
Community Commercial	1,210	1.08
Regional Commercial	1,369	1.23
Commercial Manufacturing	282	0.25
Business Park	5,174	4.64
Industrial	16,526	14.82
Mineral Resource Extraction	5,738	5.14
Airfield and Related	20,557	18.43
Public Facilities	885	0.79
Open Space	7,904	7.09
Parks	1,554	1.39
TOTAL	111,527	100.00

Source: City of Palmdale 1991.

The Safety Element identifies hazards posed by earthquakes, geological characteristics, aircraft accident potential, wildfire and urban fires, and hazardous materials and wastes. It establishes measures to prevent catastrophes when possible, to minimize the harm and damage they may cause, to provide support services to respond to emergencies, and to plan for restoring the community after a disaster.

The Community Design Element of the General Plan is currently being prepared. It will contains community design guidelines that will be used to evaluate the aesthetic quality of developments in the Planning Area. This will help the City establish a community identity separate from Lancaster and other communities in the Antelope Valley. Likewise, it will reduce blight in the City and make Palmdale a more attractive place to live in and visit.

Proposed implementation programs are designed to achieve the goals presented above, to preserve the City's resources, and to limit environmental degradation. A number of implementation programs in the elements of the proposed General Plan are existing City programs and practices. Implementation programs are discussed in Section 4 as they relate to mitigation of potential impacts resulting from implementation of the General Plan.

2.4 RELATIONSHIP TO OTHER PLANS

The Palmdale General Plan serves as the primary document regulating the physical development of the City. Thus, all city ordinances conform with the goals and policies of the General Plan. Assembly Bill 283 requires that the zoning ordinance and the general plan be mutually consistent. The Zoning Ordinance of Palmdale shall be revised to be consistent with the General Plan soon after the General Plan is adopted.

The City's Circulation System Map, the Regional Mobility Plan by the Southern California Association of Governments (SCAG), the County of Los Angeles Highway Plan, and the State Transportation Improvement Plan by the State Department of Transportation have been consulted for consistency during preparation of the Circulation Element. The County Congestion Management Plan, currently under preparation, has also been considered. Likewise, the proposed Palmdale-Lancaster Regional Plan by SCAG has been incorporated into the Element, and plans for a regional airport have been considered in the General Plan.

The Los Angeles County Department of Public Works has several plans for service provision in the area. The Flood Control and Master Drainage Plan for the Antelope Valley provides the basis for the City's Master Drainage Plan. The county plan provides for regional facilities in the valley and the Palmdale plan sets up local facilities to support and supplement the county system.

The County Waterworks Districts and Palmdale Water District, as well as the many small providers, provide water service to parts of Palmdale and have been consulted for service expansion plans and projects.

The Master Sewer Plan shall be made consistent with the General Plan. Proposed sewer projects by the Los Angeles County Sanitation Districts have been evaluated and incorporated into the preparation of this document. Input from the sewer districts will be solicited prior to adoption of the plan, as well as from other service providers (Fire Department, Sheriff's Department, and private agencies).

The Master Parks and Recreation Plan shall be made consistent with the General Plan and will coordinate with the proposed trail system of the Los Angeles County Department of Parks and Recreation and the Antelope Valley Trails Council. Equestrian trails from this county system, and the City's Master Bikeway Plan, have been or will be, incorporated into the General Plan.

The master plans of the different school districts have been reviewed and school districts have been asked for input and comments during the preparation of the General Plan.

The Regional Housing Needs Assessment by SCAG served as the basis for the identification of existing and future housing needs of the City. The City's housing programs have been designed to meet these needs.

Where appropriate, portions of the SCAQMD's Air Quality Management Plan are incorporated into this document. The City has incorporated AQMP control measures into the policies under Goal ER5 of the Environmental Resources Element. Implementation measures in this Element establish measures to keep air quality within state and federal clean air standards.

Other existing plans which affect the Planning Area have been referenced in the General Plan for consistency. Plans currently in preparation will be made consistent with the General Plan. Plans for the USAF Plant 42, for the proposed regional airport, and for other areas not under the political jurisdiction of Palmdale but within its Planning Area, have been incorporated into the General Plan.

SECTION 3

ENVIRONMENTAL SETTING
(MASTER ENVIRONMENTAL ASSESSMENT)

This section of the EIR serves as the master environmental assessment (MEA). It contains a comprehensive discussion of existing conditions in the Planning Area from natural issues to social concerns. It brings together a number of studies on the City of Palmdale and the surrounding community to provide a single reference document.

Because environmental and social conditions change through time, a monitoring program has been designed to update information contained in this section. It is included as Appendix A.

3.1 GEOLOGY

The Antelope Valley is part of the Mojave structural block, an elevated desert lying between 2,300 and 3,500 feet above mean sea level (msl). The Tehachapi Mountain Range is on the north and northwest and the San Gabriel, Sierra Pelonas, and the Liebre Mountains are south and southwest of the Antelope Valley.

Bounded by the San Andreas and Garlock faults, the valley contains as much as 4,000 feet of alluvial fill. Upper Quaternary deposits have accumulated in response to the uplift and erosion of the San Gabriel Mountains during the last half million years. Among the most distinct deposits of the valley fill are the pluvial lake deposits. Formed during wet climatic periods during the Pleistocene age, playa lakes such as the Rosamond and Rogers Dry Lakes experienced several episodes of filling and desiccation, leaving extensive interbedded sequences of silt, clay, sand, and gravel. Major drainage courses fan out from the mountains and converge at Rosamond and Rogers Dry Lakes in Kern County. These include the Little Rock Wash, Big Rock Wash, Amargosa Creek, and Anaverde Creek along with numerous smaller water courses which move through the different canyons in the surrounding mountains. The Palmdale Planning Area is made up of gently sloping topography on the alluvial fans and moderately steep slopes on foothills, mountains, and fault scarps. Remnants of old ridges remain as scattered buttes in the eastern sections of Palmdale. All intermittent and ephemeral streams drain towards the Rosamond and Rogers Dry Lakes.

The Antelope Valley is underlain by consolidated rocks which are exposed in the mountain highlands. The consolidated rocks consist of pre-Tertiary aged igneous and metamorphic rocks and continental rocks interbedded with volcanic flows of Tertiary age. The geologic units that comprise the Antelope Valley Basin are discussed below as documented by the Department of Water Resources (1966).

- The oldest formation is the pre-Tertiary aged basement complex of quartz monzonite, granite, gneiss, schist, and other igneous and metamorphic rocks. The basement complex is impermeable, with the exception of springs that occur in the joints and weathered zones.

- The Paleocene age shale, sandstone, and conglomerate comprise the Martinez Formation. These rocks have a low permeability.

- The Vasquez Formation is of Oligocene to early Miocene age and is composed of basalt, andesite, dacite, and rhyolite from lava flows, and interbedded tuff, ash, and breccia. This formation is exposed along the south side of the San Andreas fault zone.

- The Punchbowl Formation, of late Miocene and early Pliocene age, is composed of sandstone and conglomerate.

- The middle Pliocene age Anaverde Formation is composed of moderately consolidated sandstone and conglomerate, with thin beds of shale along the trace of the San Andreas fault.

- The unnamed Pliocene age sandstone is composed of sandstone, conglomerate, and reddish siltstone. Rocks of this formation are exposed north of the San Andreas fault.

The unconsolidated, Pliocene to Holocene age alluvium overlies the consolidated rock formations and is discussed in Section 3.3.1, Groundwater.

Climate influences soil formation by regulating the rate of organic material decomposition and mineral weathering. It also influences removal of surface material and accumulation of material. In the Planning Area, precipitation ranges from 5 to 9 inches per year. Rainfall is not adequate to irrigate cultivated crops but it can sustain native plants. Summers are hot and winters are cold. Snowfall is light and does not stay on the ground for long. During summer, the prevailing winds blow from the southwest across the desert. Blowing dust and sand are continuing hazards, particularly on sandy soils.

3.1.1 SOILS

The Soil Survey of the Antelope Valley Area, conducted by the United States Department of Agriculture) USDA Soil Conservation Service in 1970, provides the baseline information for the discussion of Palmdale's geology. Seven of the 16 soil associations in the Antelope Valley are in the Planning Area as shown in Exhibit 3-1.

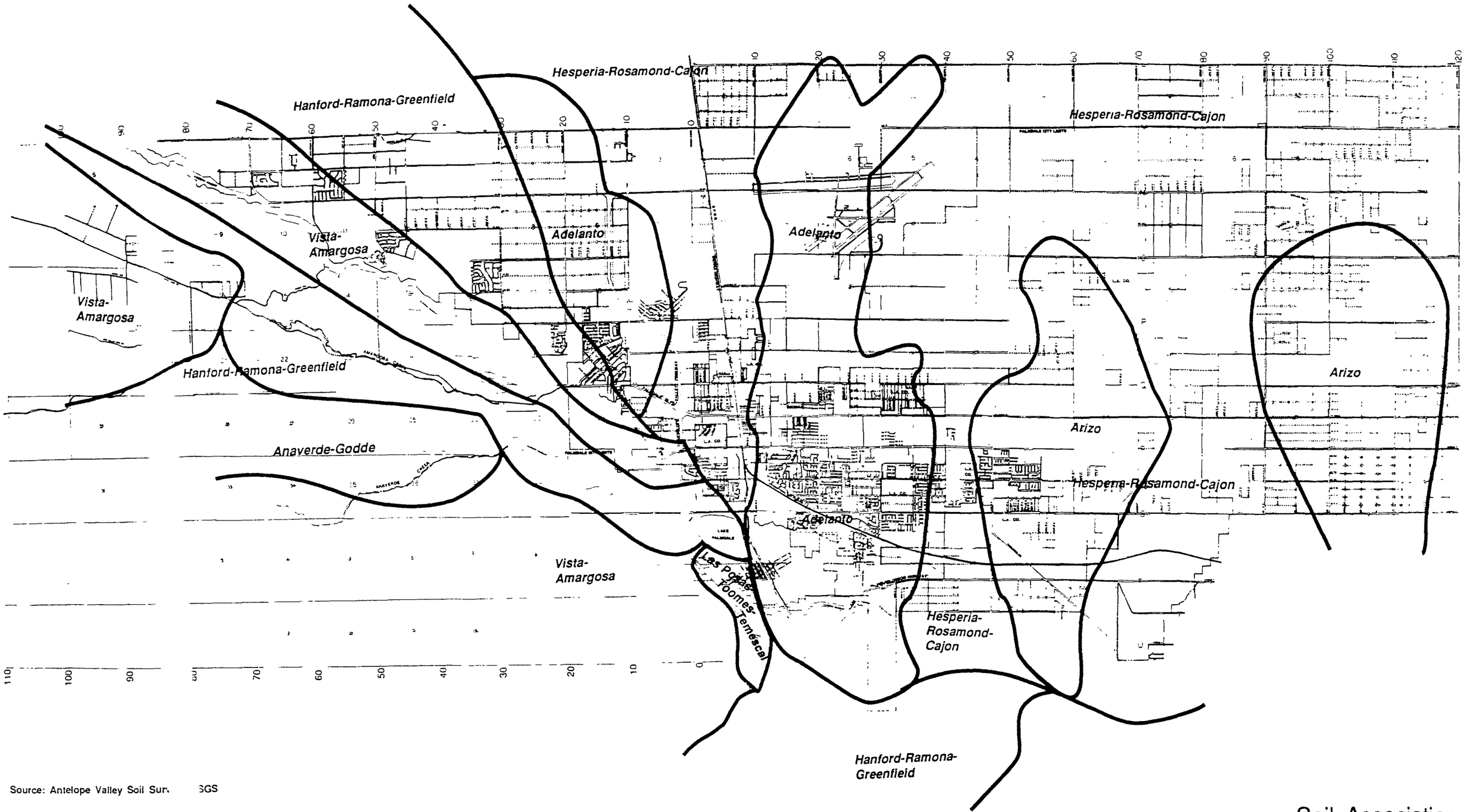
The Hesperia-Rosamond-Cajon Association is a soil complex with a majority of Hesperia, Rosamond, and Cajon soils. They formed in alluvium from granitic rock and are found on Holocene alluvial fans. Hesperia soils make up 40 percent of the association, Rosamond soils 30 percent, and Cajon soils 25 percent, with 5 percent Arizo soils and Riverwash. (Riverwash is a descriptive name referring to a land type for areas where soil material is so frequently reworked by water that it cannot be classified by soil series.)

Hesperia soils are pale brown and well drained with a surface of slightly acid loamy fine sand to loam. Underneath, they are mildly alkaline to moderately alkaline fine sandy loam and sandy loam. Common salts of calcium are important soil minerals, and in Palmdale where evaporation can be greater than precipitation, salts such as calcite can accumulate. Thus, Hesperia soils are calcareous in the lower part.

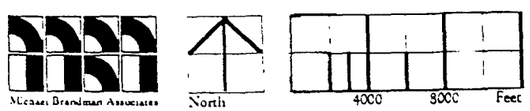
Rosamond soils are light brownish-gray and pale brown and moderately well-drained. They are mildly to moderately alkaline, stratified loamy fine sands to silty clay loams. They are calcareous in the lower part.

Cajon soils are very pale brown and excessively drained. The surface is neutral loamy sand and loamy fine sand. Below they are mildly alkaline fine sand over moderately alkaline sand. They are calcareous in the lower part.

This association consists of very deep soils that have loamy and silty clay loam surfaces found on nearly level to sloping grounds and which are moderately well to excessively drained. It is used mainly for pasture, orchards, and the cultivation of irrigated alfalfa, small grains, and sugar beets. Native vegetation, including annual grasses, forbs, Joshua trees, Mormon tea, and rabbitbrush, is commonly found with this association. Sagebrush grows in some places. This association covers the majority of flat ground east, north, and at the central portions of the Planning Area or approximately 42 percent of the Planning Area.



Source: Antelope Valley Soil Sur SGS



Soil Associations
Palmdale General Plan

Exhibit 3 - 1

The Adelanto Association is a soil complex which is 90 percent Adelanto soils. Mohave soils make up 5 percent and Cajon and Hesperia soils make up the remaining 5 percent of the association.

Adelanto soils are brown and light brown in color and are slightly acid and neutral loamy sand to gravelly sandy loam. Underneath, it is light brown to reddish brown, calcareous sandy loam and heavy sandy loam. Some areas are gravelly throughout. Cajon and Hesperia soils were previously discussed for the Hesperia-Rosamond-Cajon Association.

This association is found on nearly level to gently sloping grounds on alluvial fans and terraces. It is made up of well-drained and very deep soils with a loamy sand or gravelly sandy loam surface layer. The soils formed in alluvium from granitic rock. This association is appropriate for irrigated crops; for limited grazing in spring; as wildlife habitats; and for urban uses. Vegetation is mainly annual grasses and forbs. Desert stipa, sagebrush, creosote bush, Joshua trees, and junipers grow in some areas. There are two distinct areas in Palmdale with this association. One is generally east of the Southern Pacific Railroad (SPRR), from Avenue M to Pearblossom Highway and the other is, east of Quartz Hill, from Avenue M to Elizabeth Lake Road. They cover approximately 16 percent of the Planning Area (see Exhibit 3-1).

The Arizo Association is found on alluvial fans of Little Rock Wash. This association is 85 percent Arizo soils and 15 percent Riverwash. The Arizo soil is pale brown and neutral gravelly loamy sand or loamy fine sand on the surface. Underneath, it is calcareous very cobbly loamy sand and very gravelly loamy sand. As previously discussed, Riverwash is a descriptive name referring to land type for areas where soil material is so frequently reworked by water that it cannot be classified by soils series.

The soils are excessively drained, very deep soils with a loamy fine or gravelly loamy sand surfaces. They formed in very gravelly, granitic alluvium and are found in nearly level to gently sloping grounds. They are a source of sand and gravel resources and are used for limited grazing and for wildlife habitat. Native vegetation consists of annual grasses, forbs, creosote bush, Mormon tea, and rabbitbrush. The Arizo Association covers approximately 14 percent of the Planning Area.

The Hanford-Ramona-Greenfield Association is a soil complex made up of 45 percent Hanford soils, 25 percent Ramona soils, 20 percent Greenfield soils, and 10 percent of Chino, Oakdale, and Vernalis soils, and terrace escarpments.

Hanford soils are pale brown, slightly acid loamy sand to loam on the surface. Underneath, they are light yellowish brown, slightly acid, and neutral coarse loam and gravelly loamy coarse sand.

Ramona soils are brown with a surface layer of slightly acid, coarse sandy loam and sandy loam. The lower layer is slightly acid and neutral loam to sandy clay loam underlain by neutral loam.

Greenfield soils have a pale brown and brown surface layer of slightly acid sandy loam. The lower layer is brown sandy loam and heavy sandy loam underlain by brown neutral coarse sandy loam.

This association is found in the Leona Valley and Ritter Ranch areas and on the south central sections of the Planning Area. They are on alluvial fans and terraces with nearly level to moderately steep slopes. The soils are well-drained and very deep with a loamy sand to loamy surface. They formed in alluvium from granitic rock. Native vegetation consists of annual grasses, forbs, and junipers in some areas. This association covers 12 percent of the Planning Area.

The Anaverde-Godde Association is a soil complex with 55 percent Anaverde soils and 45 percent Godde soils. Anaverde soils are moderately deep to deep and slightly acid. They are dark grayish brown and dark brown loam on the surface. Underneath are layers of grayish brown, light clay loam and yellowish brown, gravelly light clay loam. Hard, olive gray bedrock is 36 to 55 inches from the surface.

Godde soils are shallow and slightly acid. They are grayish brown loam on the surface and hard, dark-colored rock underneath. The bedrock is 14 to 20 inches from the surface.

This association is found on moderately steep to steep slopes, on foothills, and on mountains. It is found on the Sierra Pelona Mountains, southwest of the Planning Area. It has well-drained soils with a loam surface that may be deep or shallow on bedrock. They are formed in place in material weathered from rock. Native

vegetation consists of annual grasses, forbs, and oaks. Junipers and buckwheat grow in some places. The Anaverde-Godde Association covers 2.5 percent of the Planning Area.

The Vista-Amargosa Association is a soil complex with 55 percent Vista soils, 40 percent Amargosa soils, and 5 percent exposed bedrock. Vista soils are moderately deep and well-drained. They have a brown, slightly acid coarse sandy loam surface. The lower layer is brown, neutral sandy loam, and yellowish brown neutral coarse sandy loam. Hard granitic bedrock is 28 to 38 inches below the surface.

Amargosa soils are shallow, excessively drained and slightly acid. The surface layer is brown and yellowish brown coarse sandy loam underlain by yellowish-brown gravelly sandy loam. Hard granitic bedrock is 14 to 20 inches from the surface.

This association is found on strongly sloping to steep grounds of the mountains and foothills where rainfall and elevations are higher than the rest of the Planning Area. The soils are well-drained to excessively drained with a coarse sandy loam surface. This layer is moderately deep to shallow over a granite bedrock. Native vegetation includes annual grasses and forbs. California Juniper and manzanita grow in some places. The soils are found in areas of dryland grain farming, wildlife habitat, and watersheds. It is found south of the Little Rock Wash fan and along the Sierra Pelona Mountains on the western section. The Vista-Amargosa Association covers 12.5 percent of the Planning Area.

Las Posas-Toomes-Temescal Association is associated with the foothills along the San Andreas Rift Zone. The soils of this association are formed in material from basalt or andesite. The basalt bedrock is covered by a moderately deep to thin layer of soils. These upland soils are well drained to excessively drained and found in strongly sloping to steep areas. Vegetation found in this soil association consists of annual grasses, forbs, yucca, and juniper.

Los Posas soils make up 40 percent of this association. Moderately deep and well drained, Los Posas soils are comprised of clay loam and heavy loam subsoils. This is underlain by hard basalt which outcrops in 5 to 10 percent of the surface.

Toomes soils comprise 25 percent of this association. Because of the texture of their grayish-brown loam and yellowish-brown loam, Toomes soils are somewhat excessively drained. Like the Los Posas soils, the Toomes soils are shallow and underlain by a hard basalt which outcrops in 5 to 10 percent of the surface.

Twenty percent of this association is comprised of Temescal soils. These are shallow, well drained, and slightly acid. Their surface layer is light brownish-grey sandy loam, and their subsurface layer is a light brownish-grey heavy loam. Slightly weathered light-gray andesite is found at a shallow depth.

The remaining 15 percent of the Los Posas-Toomes-Temescal Association is comprised of Wyman soils and exposed bedrock.

The Las Posas-Toomes-Temescal association is found on strongly sloping to steep grounds on the foothills where elevations and rainfall are higher than the rest of the Planning Area. The soils are well-drained or excessively drained soils with a loam or sandy loam surface. This surface layer is moderately deep to shallow over basalt or andesite. Native vegetation includes annual grasses, forbs, chamise, yucca, and juniper. This association covers approximately 1 percent of the southern section of the Planning Area around the Antelope Valley Freeway.

The United States Soil Conservation Services' Soil Surveys contain reports of soil tests performed on the different soil types in the Antelope Valley which provided information on suitability for farming, estimated crop yields, erosion factors, use for range, windbreak, wildlife, and recreation and other nonfarm uses. The tests also showed infiltration capacity, salinity, expansion potential, soil pressure, absorption capacity, water retention, and corrosivity. Factors which create geologic hazards for the Planning Area are discussed below.

The western portion of the Planning Area is composed exclusively of fine- to coarse-grained quaternary alluvium. The eastern half consists primarily of the fine-grained alluvium except for localized occurrences of very coarse-grained alluvium and metamorphic rock outcrops. The San Gabriel/Sierra Pelona Mountains to the south are made up of igneous and metamorphic rocks, pleistocene terrace deposits (colluvium), Tertiary sandstone, and conglomerates. The San Andreas Fault is defined by uplifted, faulted plio-pleistocene nonmarine deposits.

Soil formations may present hazards to development; these hazards include fractured or weak bedrock, thick alluvium, and clay or sand lenses. Geologic investigations prior to construction will determine local anomalies which may pose risks to development.

3.1.2 GEOLOGIC HAZARDS

The geology of the area determines the capacity for supporting manmade structures. Geologic hazards are present in the area in the form of unstable soils and certain ground formations which render some areas unsuitable for intensive human activity.

Slopes

The Planning Area features steep slopes on its southern edges. This area includes unstable slopes, areas subject to erosion, and landslides. Landslides, including rock falls, avalanches, and rock and debris slides, occur on the southern edge of the Planning Area. Rock failures are abundant in the San Gabriel/Sierra Pelona Mountains where large outcrops of crystalline and massive sandstone rocks occur on steep slopes throughout the entire area. Rock falls and slides will occur in well jointed, intact rocks throughout the entire area, while rock avalanches will result from failure of the steep, unstable slopes, especially common on the northern slope of the mountain range. Block glides, earth flows, and debris flows are common to slopes of undifferentiated igneous and metamorphic rock on the eastern slopes of the San Gabriel and Sierra Pelona mountains. A "block glide" occurs in bedrock material, along a planar surface (along rock layers), and not in fill, soil, or alluvium. In general, the mass slides if the rock layer "daylights" or dips less than the slope. Potential slide planes include contacts between rock units, internal bedding (or layers), and jointing. "Debris flows" describes a process in which a mass of loose soil becomes fluid and moves downslope. Debris flows are common in areas characterized by steep, soil-mantled slopes, and intermittent heavy rainstorms. Debris flows originate in natural soil materials when a slab of soil or wedges of valley fill become saturated, or nearly so, and begin sliding. Thus, the requisites for debris flows are: (1) a thick mass of loose soil, (2) a large amount of water, and (3) a steep initial slope (i.e., slopes greater than 27 degrees or about 50 percent). Debris flows can become debris floods with increasing amounts of water relative to sediment. For a given slope inclination, debris flows have much greater carrying capacity and can attain higher velocities than debris floods.

Those areas with a 10 to 40 percent slope will typically require special hillside construction techniques to achieve substantial foundation support and stable soil conditions. Areas with slopes greater than 40 percent are subject to instability and erosion and are generally not recommended for development. Exhibit 3-2 shows the slope categories within the Planning Area. Increasing urbanization on the hillsides exposes the community to possible landslides and rockslides which could result in human injury and property damage.

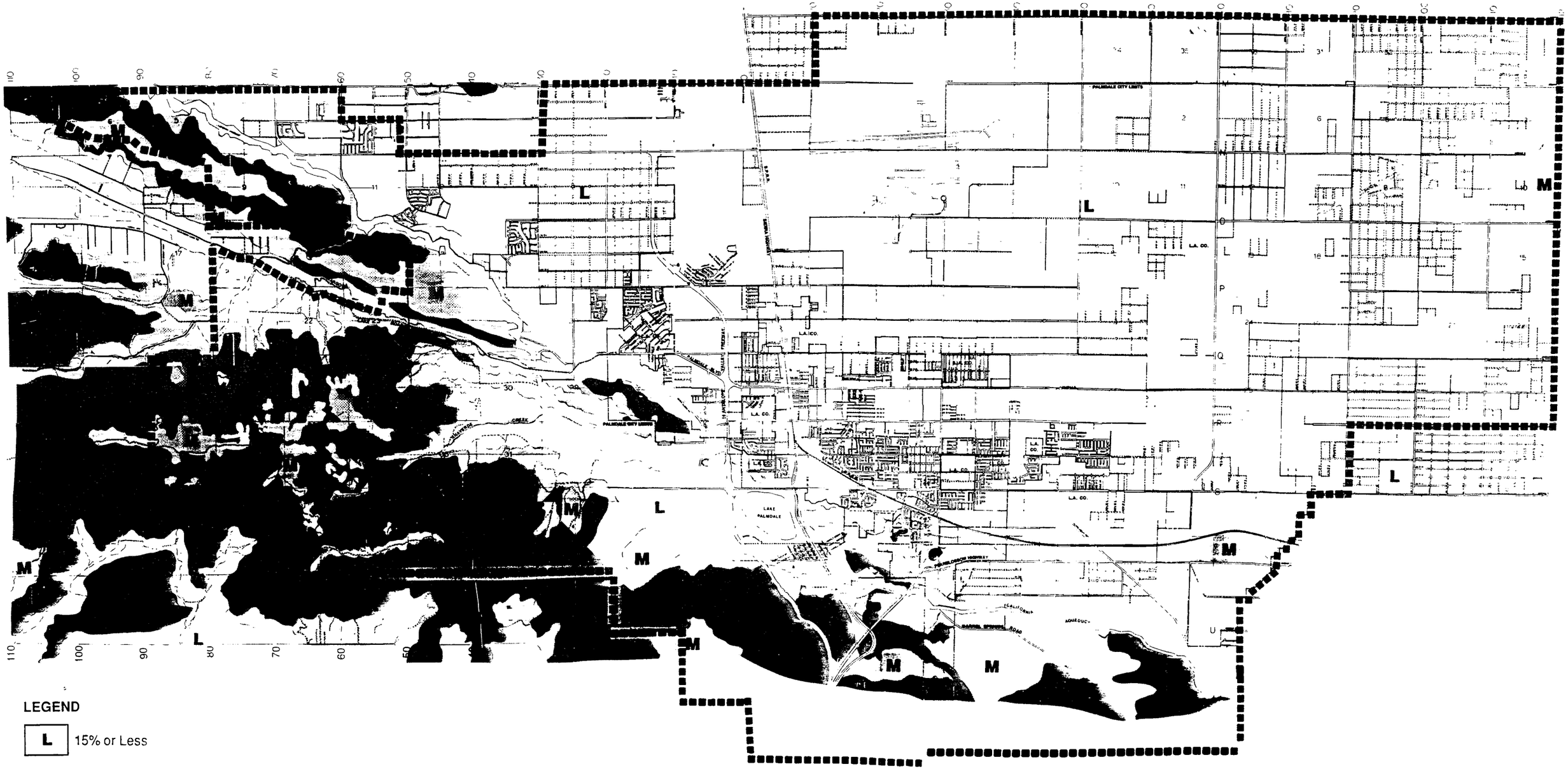
Soil Expansion

A soil's potential to shrink and swell depends on the amount and types of clay in the soil. Montmorillonite and bentonite clays are more responsive to changes in water content than other types: they expand more when wetted and disproportionately shrink when drying. Moreover, the higher the clay content, the more the soil will swell when wetted and shrink when drying.

These highly expansive soils can cause land slippage and structural damage to foundations and roads and are, thus, less suitable for development than nonexpansive soils. Detailed geologic/soils engineering investigations are necessary for areas with moderate to high shrink/swell potentials. Development on expansive soils requires special grading and construction techniques which increase development costs. Exhibit 3-3 shows the expansion potential of soils in the Planning Area. Soils with high expansion potential are found in the southern portions of the Planning Area. Soils with moderate expansion potential are generally found in the southwestern Planning Area, along Elizabeth Lake Road, north of and parallel to the California Aqueduct, between Palmdale Boulevard and Avenue T from Sierra Highway to 25th Street East, and near the regional airport site.

Soil Erosion

The propensity for soil erosion by wind or water runoff is dependent on soil type and its consolidation, vegetative cover, slope, and the runoff velocity. Soil erosion potential is noted in Exhibit 3-4. Erosive soils are often found in steep slopes where runoff velocity is greatest and vegetative cover least. Eroded materials end up on the valley floor with coarse materials near the hillsides and finer ones in areas farther from the slopes. Water erosion can usually be controlled with slope planting, the control of drainage flows, terracing, and retaining walls. Wind erosion is best countered by using wind breaks, such as trees and plant cover. Soils with



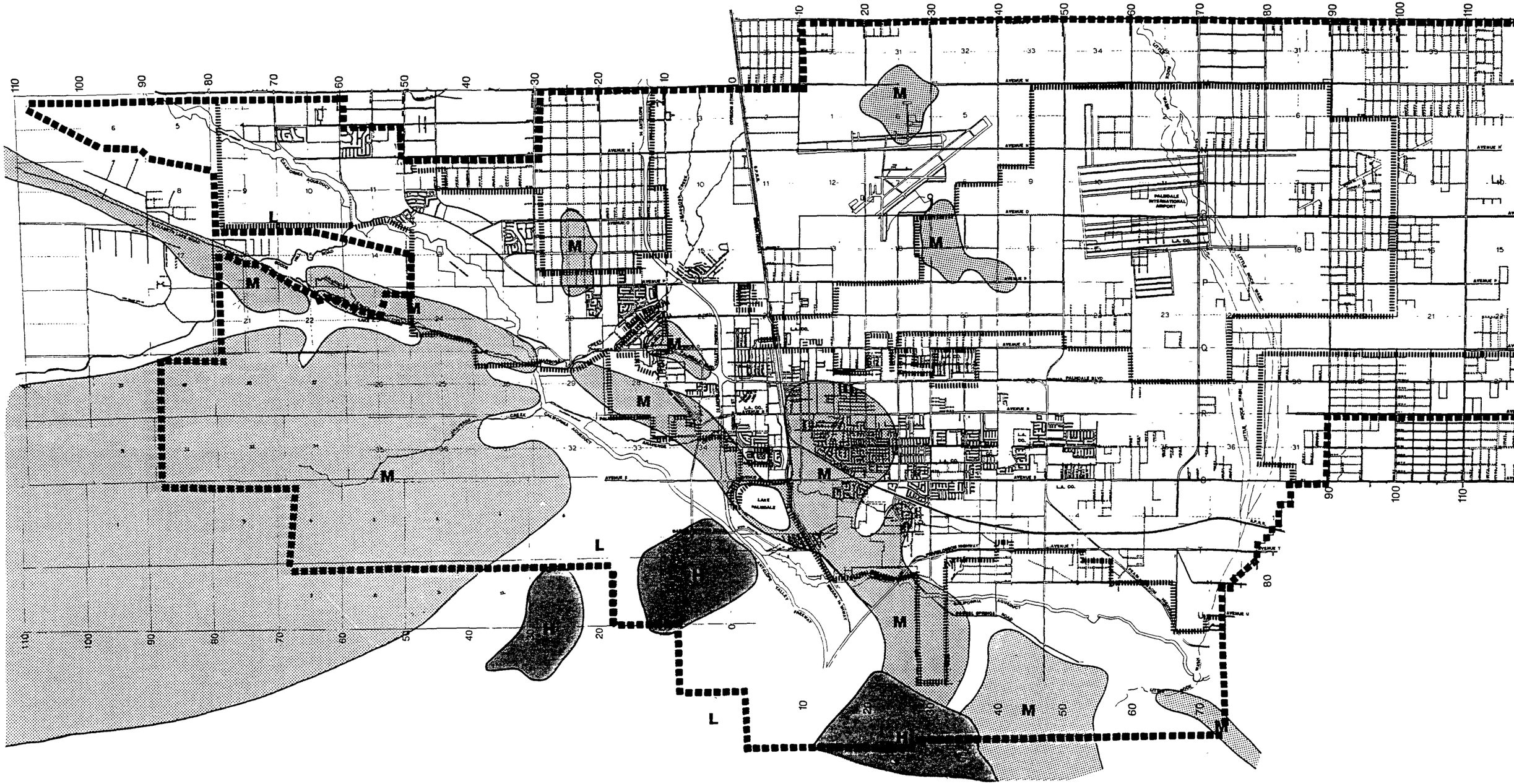
LEGEND

- **L** 15% or Less
- **M** 15-25%
- 25% or Greater
- Not Surveyed

North

Slope Categories
Palmdale General Plan

Exhibit 3-2



North

0 4000 8000 FEET

Legend

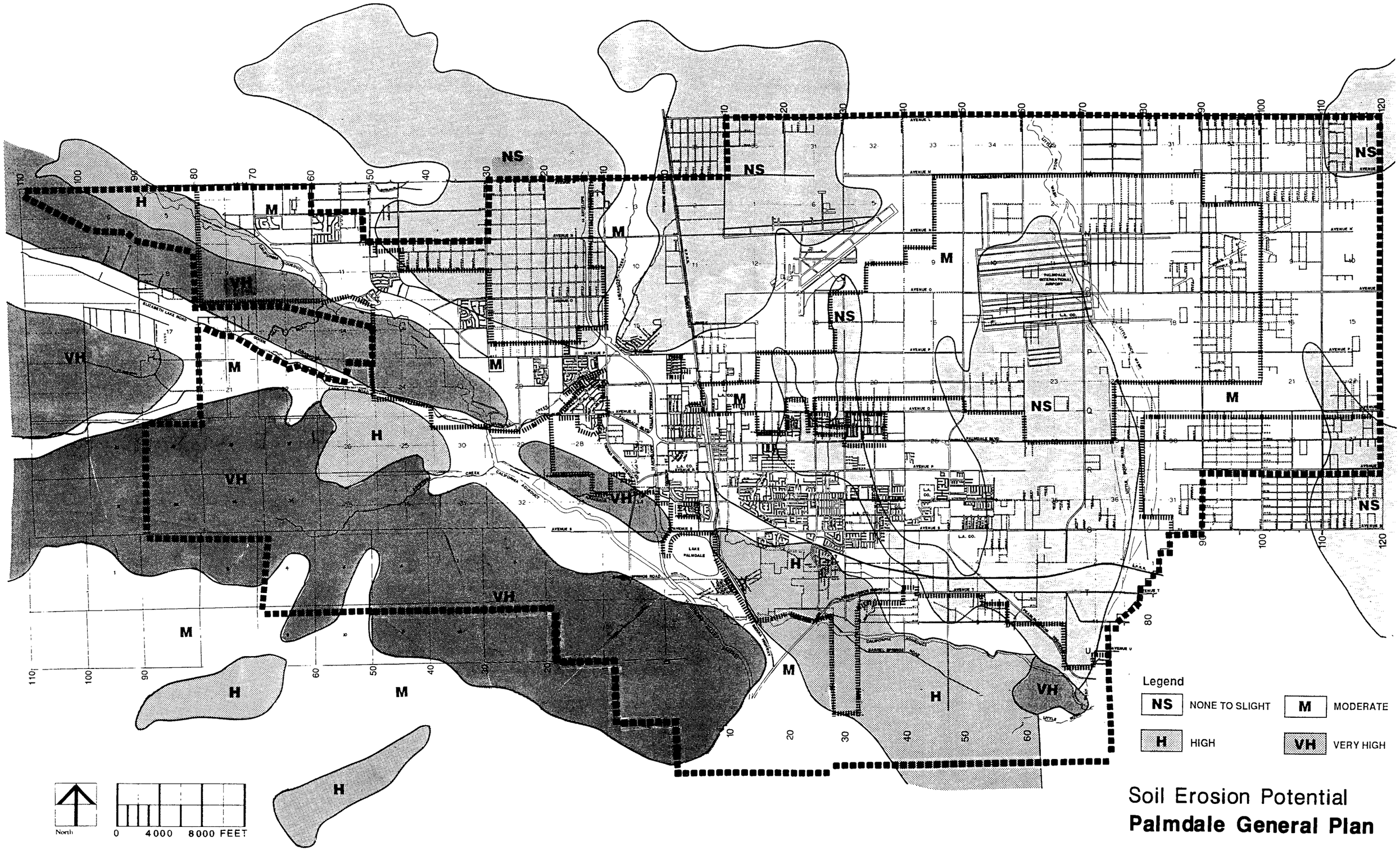
L LOW

M MODERATE

HIGH

Soil Expansion Potential
Palmdale General Plan

Exhibit 3-



Soil Erosion Potential
Palmdale General Plan

Exhibit 3-4

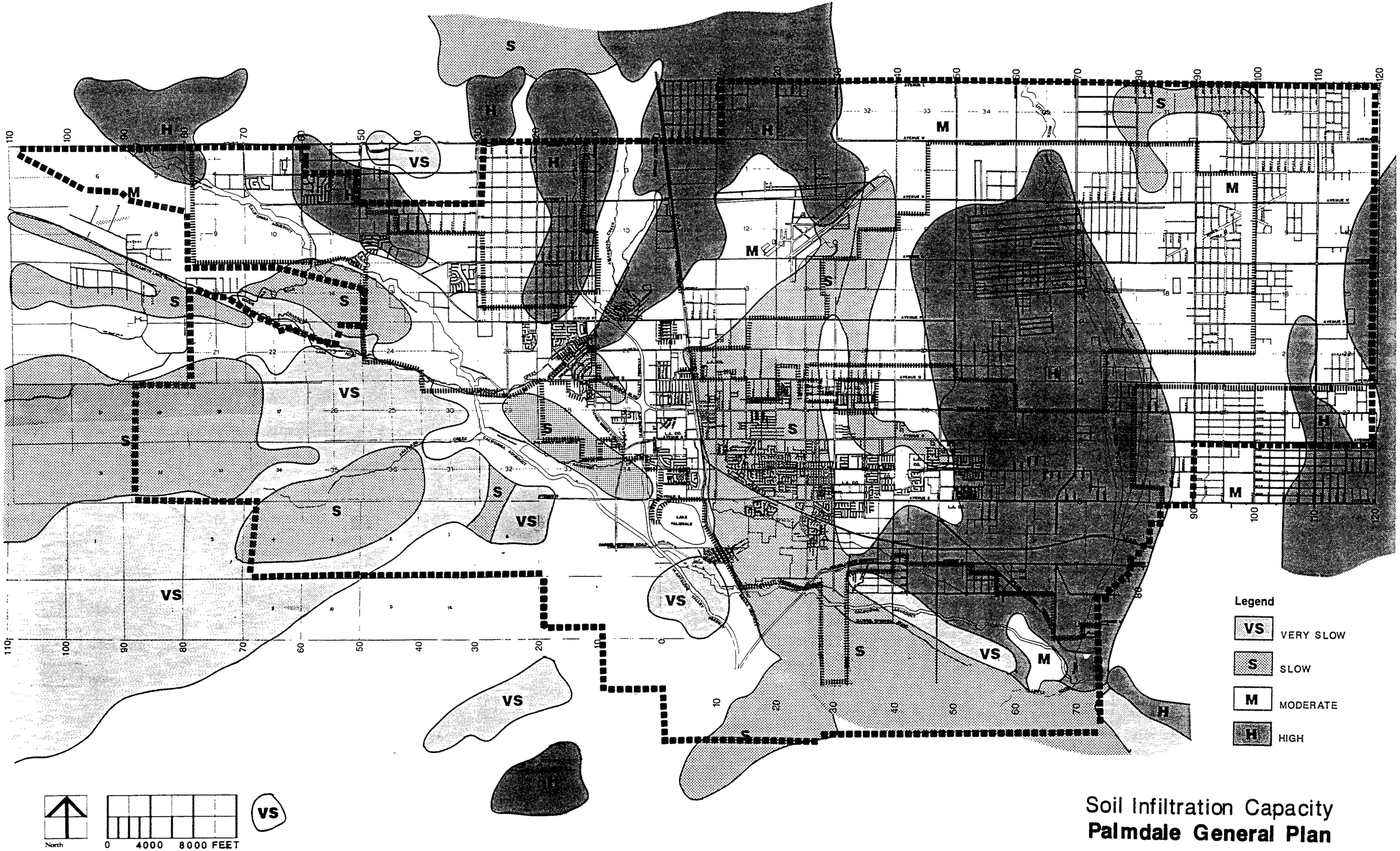
very high erosion potential are generally found on the northern slopes of the Sierra Pelona Mountains and parallel to the California Aqueduct.

Soil Infiltration

The water percolation quality of soil or its permeability depends on grain size, the amount of compaction, and soil depth, among other things. Coarse-grained soils, such as sand and gravel, are more permeable than silt or clay. The ability of soil to percolate water determines which areas are best for groundwater recharge, where septic tanks are appropriate, and the proportion of storm water, or nuisance water, that is absorbed by the ground. Exhibit 3-5 characterizes the infiltration capacity of soils in the Planning Area.

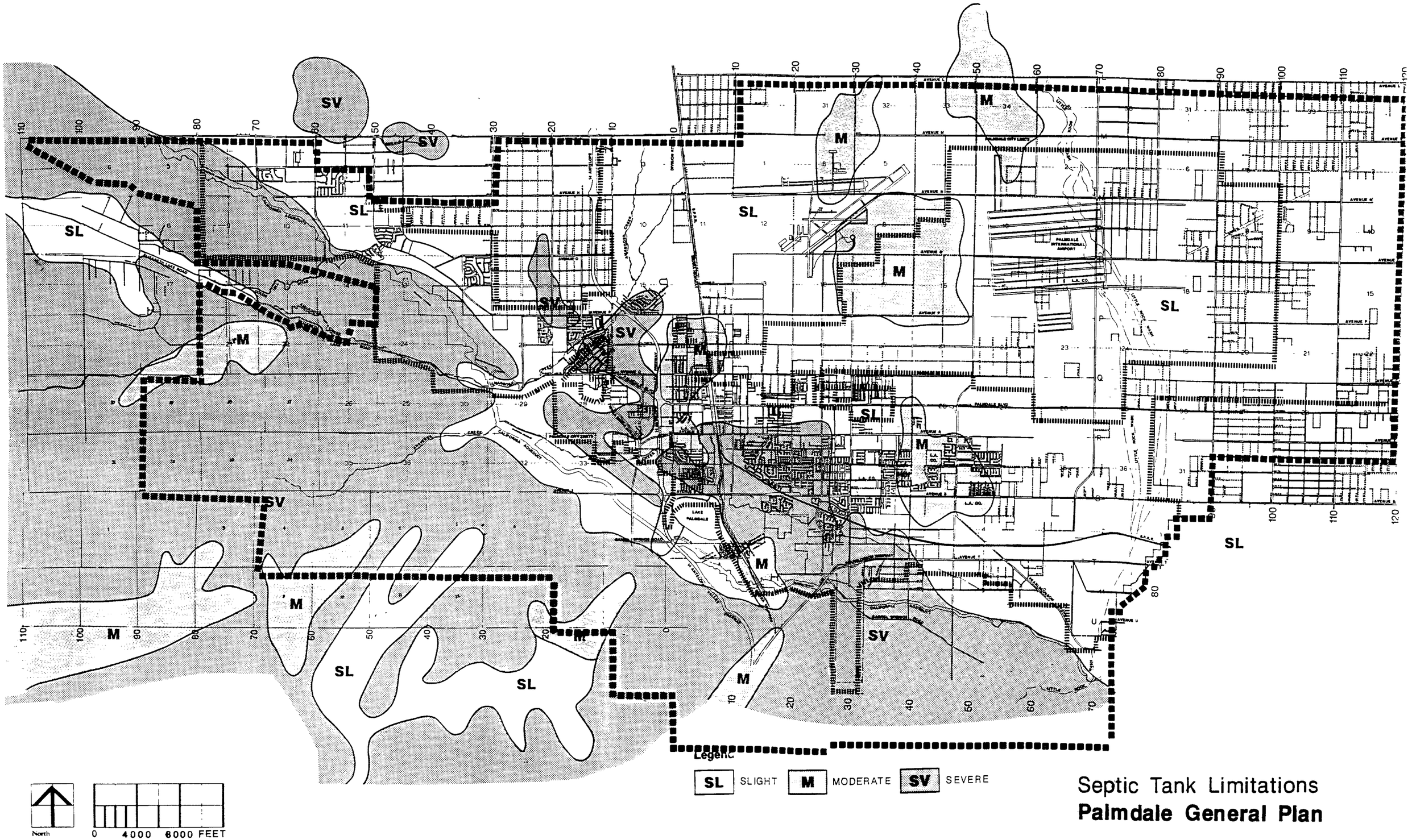
Soils with very slow infiltration when thoroughly wetted have high runoff potential. They are usually highly expansive clay soils, soils with high water tables, and soils with clay layers or impervious material, such as cemented soils, near the surface. Soils with slow infiltration when thoroughly wetted are fine-textured and have a layer that impedes the downward flow of water. High runoff and slow water transmission is associated with these soils. Moderate infiltration means a moderate runoff potential, medium-textured, and moderately to well drained soils. High infiltration characterizes deep, well to excessively drained soils with low runoff potentials. They consist mainly of sand and gravel materials. Areas of very slow and slow infiltration are found in the central city, the southwestern Planning Area, and along the California Aqueduct.

Exhibit 3-6 shows areas with septic tank limitations. Soils with a permeability of more than 1 inch per hour, excessive or good drainage, no flood hazard, and a permanent water table more than 6 feet below the surface are considered to have slight limitations for the use of septic tanks. Moderate limitation is characterized by soils of a permeability of 0.63 to 1.0 inch per hour, somewhat poor drainage, flooding length less than 48 hours, and a permanent water table from 4 to 6 feet deep. Severe limitations for septic tanks occur where there is a permeability of 0.63 inch per hour or less, very poor drainage, a chance of flooding 1 year in 5 and a water table less than 4 feet deep. Sewer systems are needed in these areas to prevent hazards associated with effluent discharge. Also, drywell disposal of nuisance water may be inefficient in these areas and alternative storm water disposal methods need to be provided. Areas of severe septic tank limitations include portions of the central city and large portions of the southern and western Planning Area located south of the California Aqueduct.



Soil Infiltration Capacity
Palmdale General Plan

Exhibit 3-5



Septic Tank Limitations
Palmdale General Plan

Exhibit 3-6

Settlement and Differential Settlement

Settlement may damage some structures in the Planning Area. Differential settlement describes nonuniform settlement--the uneven lowering of different parts of an engineering structure. This can occur in both expansive soils and loosely consolidated soils. In areas of highly expansive soils, a higher percentage of clay causes the soil to swell when wetted and shrink when drying. If the shrink/swell process occurs unevenly beneath a structure, the foundation may crack or break. Special grading and construction techniques can be applied in areas of differential settlement. Heavy loading of loosely consolidated soils and fills or improperly compacted fills can result in localized settlement of structures or the ground surface.

Additionally, different soils respond differently under the weight of a structure: Granular, compressible soils may collapse and clay soils will remain stiff unless wetted, and then expand. If a structure is situated on top of two or more different soils, a portion of the foundation may settle with the granular soils while the remainder of the foundation remains in place, thus straining the foundation and causing cracking.

Detailed geologic/soils engineering investigations are necessary for areas with moderate to high shrink/swell potentials. Development on expansive soils requires special grading and construction techniques which increase development costs. (See Exhibit 3-3 which shows the expansion potential of soils in the Planning Area).

Subsidence

Ground subsidence is caused by decreasing subsurface pressure and can be traced to the pumping of groundwater, natural gas, or oil. Substantial loss of ground fluid creates a vacuum that gradually causes sinking of the ground. This may adversely impact development, as well as cause damage to underground utility lines. Adjacent land tracts in the Planning Area may have very different underlying geologic formations due to the depositional history of the Antelope Valley. The nature and suitability for development can only be determined through site-specific exploration.

Exhibit 3-7 illustrates areas of subsidence according to the Los Angeles County Engineer (1974). According to the County Engineer, the only known areas of moderate and high subsidence are located along the Palmdale/Lancaster border between 35th Street East and 60th Street East. However, no data are available for a large portion of the western Planning Area, and data on the northern part of the City are not current.

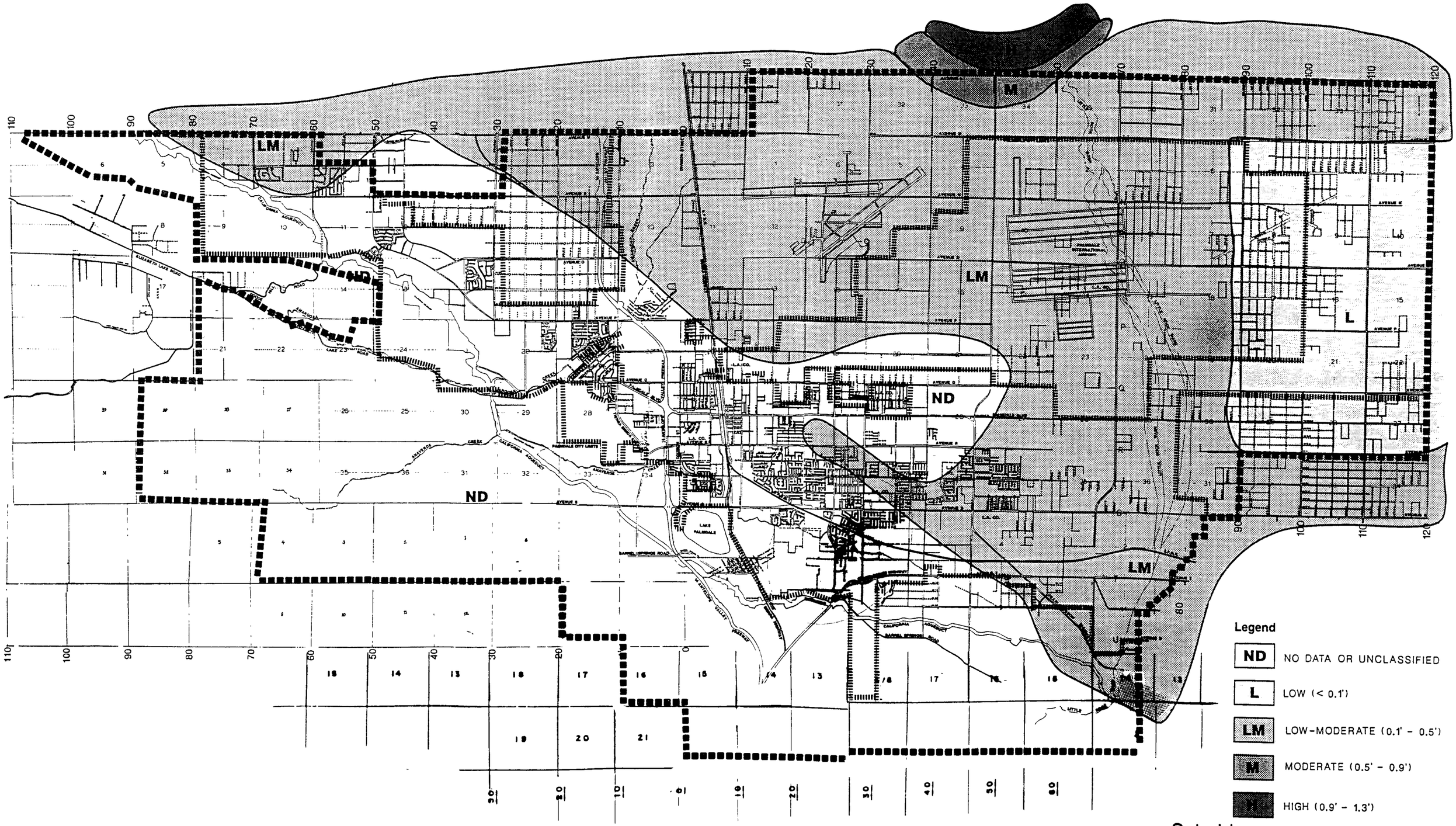
Fissuring

Fissuring is the cracking of the ground surface. Fissures may be associated with faults or groundwater withdrawal. Ground fissures have been reported for years throughout the southwestern United States. However, as new development extends into arid areas, the problems associated with fissuring have increased.

Surface water may enter the fissures and move laterally through the soils, eroding the underlying rock material. Small earth bridges are created which can easily collapse. The phenomenon has resulted in local surficial subsidence in Southern California: up to 7 feet of ground subsidence has been reported in Lancaster. There has been no evidence of fissuring within the Palmdale Planning Area; however, fissuring has been documented on Edwards Air Force Base, located northeast of the Planning Area.

Faults have not been associated with the fissuring in Lancaster or on the Edwards Air Force Base. The favored hypothesis is that regional subsidence from groundwater withdrawal is causing the fissuring. Evidence indicates that the cracks may be associated with the near surface drying of expansive clays (in native soils and fills).

The expansive clays were laid down in an ancient lake which covered a portion of the Antelope Valley between 10,000 and 2.5 million years ago. During periods of heavy precipitation, massive beds of blue clay formed in the deep perennial lake. During dry periods, the lake receded. Individual clay beds, as much as 100 feet thick, occur in areas where the lake was maintained through the dry periods. However, in areas where the lake receded, or inflows of high velocity carried coarser sediments into the lake area, the clays are interbedded with lenses of coarser material, up to 20 feet thick. During the deposition of the lacustrine (lake bed) deposits, alluvial debris supplied from the San Gabriel Mountains encroached upon the lake, causing a transgression of the alluvium over the lacustrine deposits in some areas. South of Lancaster, the lacustrine deposits are buried beneath as much as 800 feet of alluvium, but near the northern limit, lacustrine deposits occur at depth, as well



North

0 4000 8000 FEET

Source:
Los Angeles County Engineer,
1974 Land Subsidence, Antelope Valley Area of Los Angeles County

Subsidence
Palmdale General Plan

Exhibit 3-7

as being exposed at the land surface.

As previously noted, very disparate geologic formations underlie adjacent land tracts in the Planning Area due to the depositional history of the Antelope Valley. Accordingly, it is difficult to map out areas of potential fissuring (Dr. Roy Shlemon, May 1991). The nature of underlying deposits (soils and rocks) and suitability for development can only be determined through site specific exploration.

Hydrocompaction

Hydrocompaction occurs as a result of the addition of fluids. Collapsible (hydrocompactive) soils are low-density, fine-grained, granular soils containing minute pores and voids. They possess some cementation in dry conditions, but when saturated, these soils undergo a rearrangement of the grains and a loss of cementation. This results in the collapse of the soil structure at various depths and differential settlement at the surface, even with relatively low loads. Collapsible soils are extremely sensitive to increased moisture due to a rise in the water table or over-irrigation.

Collapsible soils result from deposition where materials are drained quickly and have not had enough subsequent contact with moisture to form a compact soil, or cementation has dissolved. These soils are abundant in arid environments on recently deposited holocene alluvium and older unconsolidated sediments. The arid environment and Quaternary deposits that are susceptible to collapsible soils are found in the Planning Area north of the mountain ranges.

The rapid expansion of development onto alluvial fans, including sites near Lancaster, Palmdale, Littlerock, and Leona Valley, precipitates concern for potential damage from hydrocompaction. Numerous examples from other jurisdictions in the southwestern United States demonstrate that by not adequately considering collapsible soils, widespread areas of development can be adversely affected. Albuquerque, New Mexico, which has an arid environment similar to that of the Lancaster/Palmdale area, is suffering widely scattered, rapid settlement from hydrocompaction, causing extensive damage to relatively new developments. Development within the Antelope Valley is vulnerable to the same problem.

Earthquakes

Palmdale is located in an active seismic region. The San Andreas Fault, which traverses the larger area of northern Los Angeles County, divides the North American Plate (continental) from the Pacific Plate (oceanic). The Antelope Valley, along with the greater part of California, forms the western edge of the continental plate. The northwestern and southwestern boundaries of this valley were formed by "uplift" along the fault zones known as the Garlock and San Andreas Faults. The uplift is related to drag folding along the San Andreas and Garlock Faults, rather than actual uplift.

Continuous deformation along the San Andreas Fault due to the relative movement of the plates (5 to 6 centimeters per year) can trigger earthquakes in the region. Palmdale's proximity to the San Andreas Fault makes it highly vulnerable to the hazards associated with groundshaking and soil instability, as well as ground rupture within the actual fault zone. Earthquakes are classified based on the amount of energy released which is indirectly measured on the Richter scale. This is contrasted with earthquake "intensity" which describes its effects at a particular place. Earthquakes of Richter magnitude (M) 6.0 to 6.9 are classified as "moderate". This is a logarithmic scale where each whole number increase in Richter magnitude (M) represents a tenfold increase in the wave amplitude generated by an earthquake, which is a representation of an earthquake's size. Also, for each full point increase in Richter magnitude, the corresponding amount of energy released increases 31.6 times. Thus, M 6.3 earthquake is 10 times larger than an M 5.3 earthquake and releases 31.6 times more energy. In contrast, an M 7.3 event is 100 times larger than an M 5.3, and releases almost 100 times more energy. Earthquakes between M 7.0 and 7.9 are classified as "major", and M 8.0 and larger are classified as "great". The Modified Mercalli Intensity (MMI) scale describes the intensity of earthquake-induced ground motion (Table 3-1). It is largely based on damage sustained by man-made structures constructed prior to building code revisions that were prompted by the 1933 Long Beach earthquake. Table 3-1 shows the equivalent expected intensity at an epicenter given an earthquake of a particular Richter magnitude.

In addition to the San Andreas Fault, principal faults that could produce damaging earthquakes in the Palmdale area are the Sierra Madre-San Fernando, Garlock, Owens Valley and White Wolf Faults. Their probable magnitudes are shown in Table 3-2; Exhibit 3-8 shows their general location.

TABLE 3-1

COMPARISON OF MAGNITUDE AND INTENSITY

Richter Magnitude	Mercalli Intensity	Expected Modified Mercalli Maximum Intensity (at Epicenter)
2	I-II	Usually detected only by instruments
3	III	Felt indoors
4	IV-V	Felt by most people; slight damage
5	VI-VII	Felt by all; many frightened and run outdoors; damage minor to moderate
6	VII-VIII	Everybody runs outdoors; damage moderate to major
7	IX-X	Major damage
8	X-XII	Total and major damages

Source: California Division of Mines and Geology (1979).

TABLE 3-2

FAULT MAGNITUDES

Fault	Maximum Probable Magnitude (Moment)[a]	Condition	Recurrence Interval (years)
San Andreas	8.0+	APSSZ[b]	50-200
Sierra Madre-San Fernando	6.6	Active[c]	50-200
Garlock	7.5	Active	500-700
Owens Valley	7.4	Active	850-900
White Wolf	7.2	Active	300

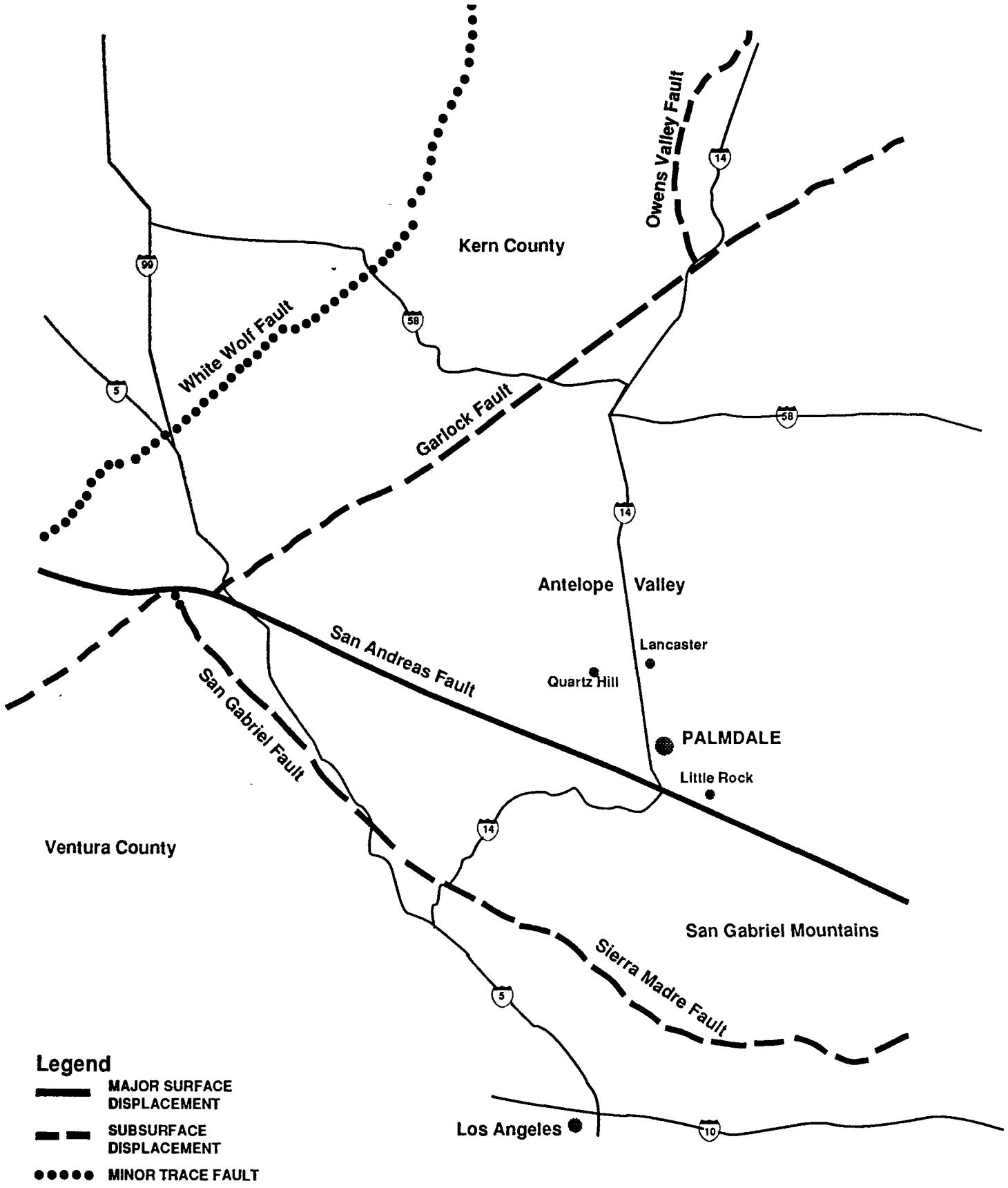
[a] The Moment Magnitude is preferred to the Richter Magnitude for earthquakes larger than magnitude 6. As the magnitude surpasses 6.5 m (Richter), all events begin to take on the same magnitude value. The Moment Magnitude keeps its integrity and delineates the different values greater than magnitude 6.5.

[b] Alquist-Priolo Special Studies Zone.

[c] Active faults are faults which have moved within the last 11,000 years. Inactive faults are faults which have not moved in the last 1.6 million years and potentially active faults are those that have moved within the last 10,000 to 1.6 million years.

Source: Department of Mines and Geology 1990 (phone conversation); USGS 1985.

The Alquist Priolo Special Studies Zones Act delineates special studies zones around recently active and potentially active portions of known faults. The Southern California region is well known for its high level of seismic activity. Located adjacent to an active plate margin, faults are numerous and earthquakes are common. The Alquist-Priolo Geologic Hazard Zones Act of 1972 was established to assist local authorities in providing for public safety in hazardous fault zones. Under this Act, the State Geologist is responsible for investigation of faults in California and delineation of Special Studies Zones that encompass hazardous faults. Hazardous faults are defined as those that show evidence of Holocene movement (movement within the last 10,000 years). Where cities and counties are affected by these zones, development projects are regulated and geologic



No Scale

North

Major Faults Near Palmdale

Exhibit 3-8

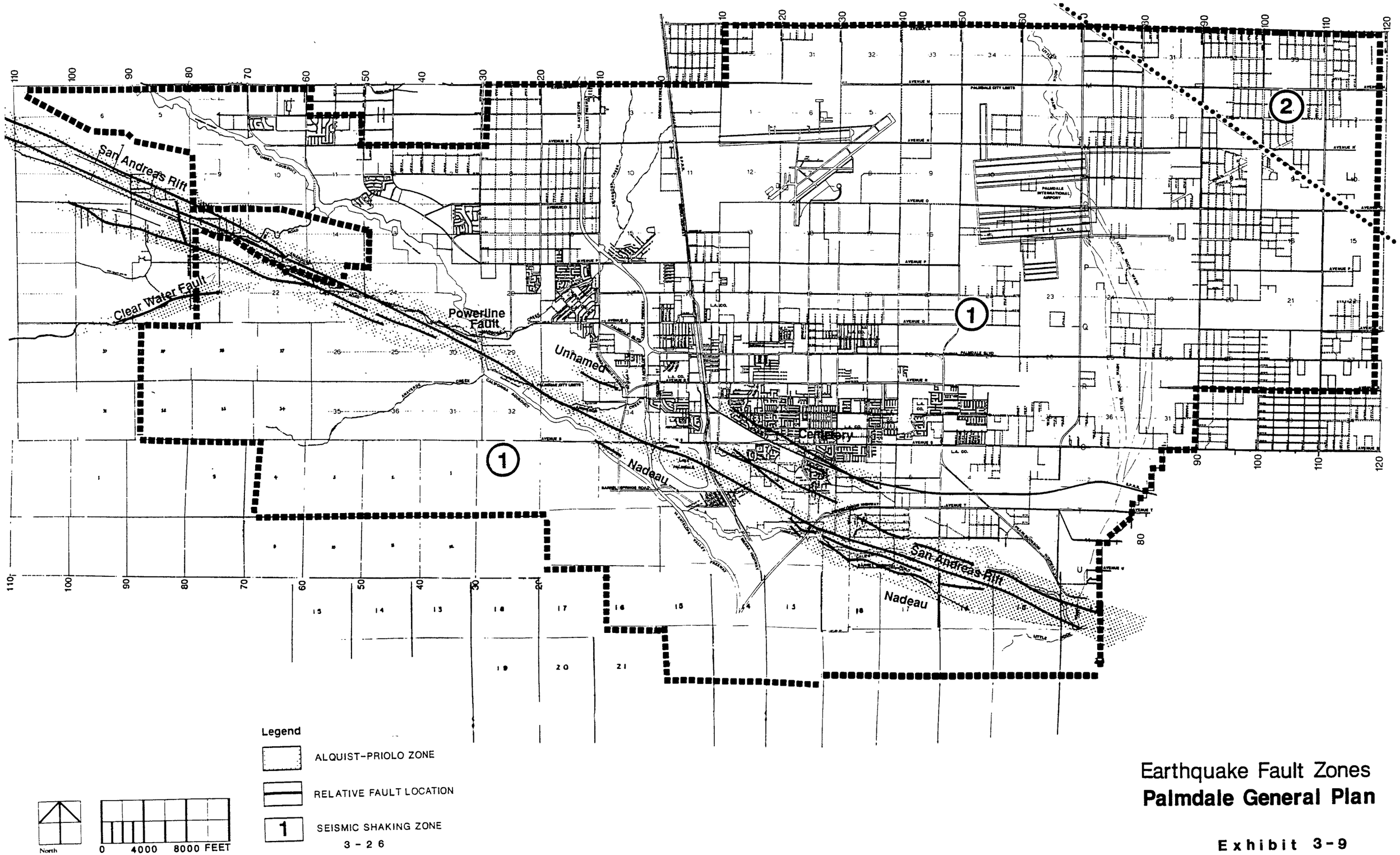
investigations are required (Hart, et. al., 1986). The purpose of this act is to prohibit the construction of new buildings for habitation across active faults. The San Andreas fault zone crosses the Planning Area and has boundaries extending 200 to 500 feet from the fault trace as shown in Exhibit 3-9. Major earthquake faults in the southern California region are mapped on Exhibit 3-10; Table 3-3 lists historical earthquakes that have affected the City of Palmdale.

TABLE 3-3

HISTORICAL EARTHQUAKES THAT HAVE AFFECTED THE CITY

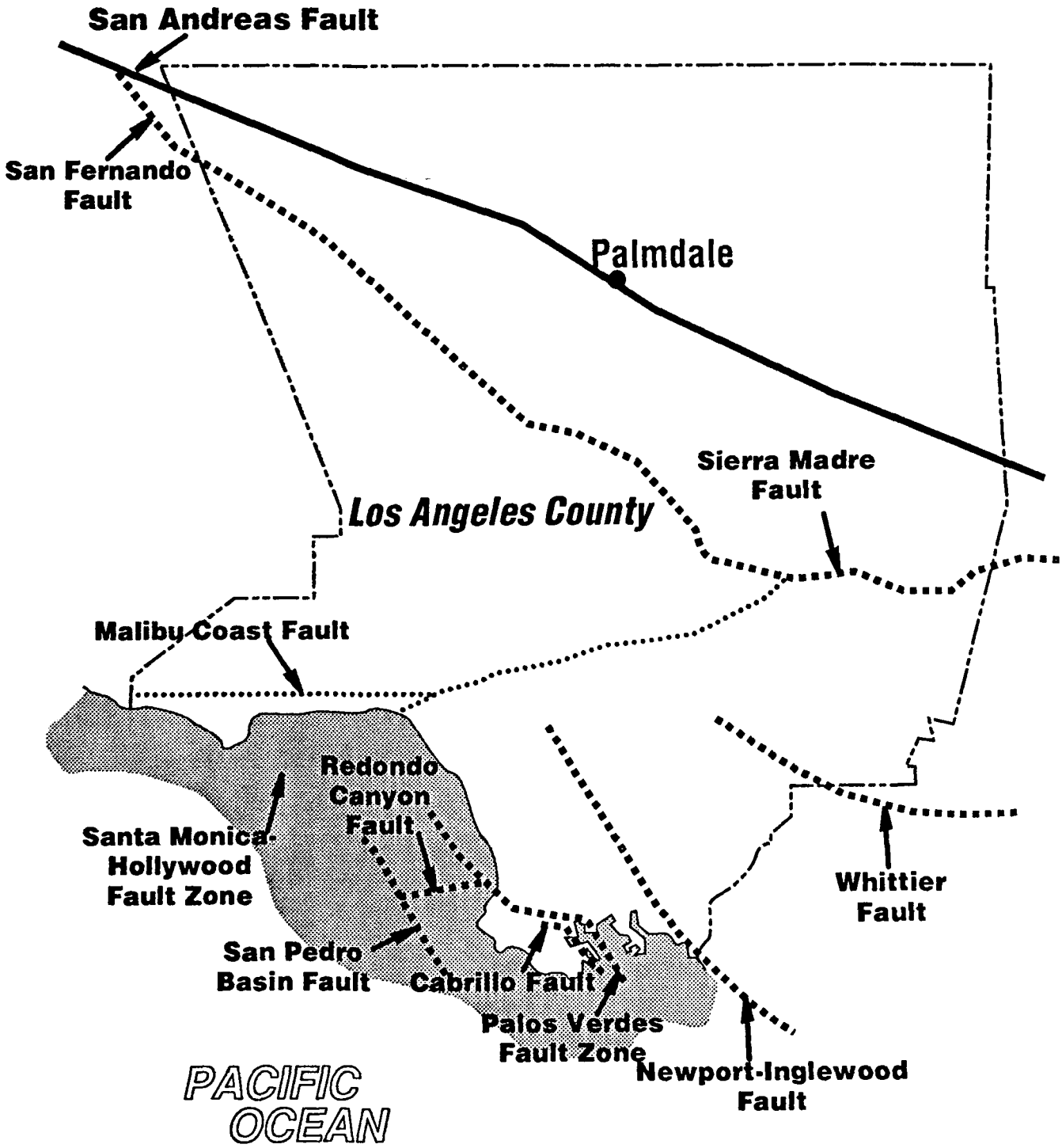
Date	Fault or Location	Estimated Richter Magnitude
1855	Newport-Inglewood	6.0
1857	San Andreas	8.9
1883	San Gabriel	6.0
1893	Santa Susana (Simi)	5.5
1920	Newport-Gardena	5.0 to 5.5
1925	Santa Barbara	6.3
1933	Newport-Inglewood (Long Beach)	6.3
1941	Torrance-Gardena	6.5
1941	Santa Barbara	6.0
1952	Acton	5.0
1971	San Fernando	6.4
1987	Unnamed fault near Whittier	5.9
1990	Sierra Madre	5.8

Source: Albee et al. 1969, L.A. County General Plan, Seismic Safety Element 1991, U.S. Geological Survey Professional Paper 1360 1985.



Earthquake Fault Zones
Palmdale General Plan

Exhibit 3-9



Legend

- Active Fault/Alquist-Priolo
- Active Fault
- Potentially Active Fault

Earthquake Faults in the Region
Palmdale General Plan

North

0 6 12 Miles

Exhibit 3-10

San Andreas Fault Zone. The San Andreas fault zone extends from the Gulf of California northward to the Cape Mendocino area where it continues northward in the ocean floor. The fault plane is essentially vertical and has a right lateral sense of movement. The total length of the San Andreas fault zone is approximately 750 miles. In 1857, a magnitude of 8.0± earthquake occurred with ground surface displacement along a 255 mile length of this fault zone between Cholame and San Bernardino. This seismic event is the most significant historic earthquake in Southern California history. It resulted in local displacement along the portion of the fault within the southern part of Palmdale. Studies indicate lateral displacements ranging from about 10 feet to as much as 22 feet probably occurred in the vicinity of Palmdale during the event.

The length of this right lateral fault and its active seismic history indicates that it has a very high potential for large-scale movement in the near future (magnitude of 8.0+), and should be considered important in land use planning for most cities in California.

A majority of the main topographic highs, or pressure ridges, can be associated with recent (last 11,000 years) activity on the San Andreas Fault and are located immediately north of City Ranch Road and Elizabeth Lake Road in the Ritter Ranch area. Other similar smaller ridges parallel the north side of the fault from Tierra Subida southeast to beyond Little Rock Wash. This portion of Ritter Ranch is located within the San Andreas Fault Alquist-Priolo Special Studies Zone. South of Elizabeth Lake Road, there is a relatively sloping alluvial fan that has been deposited and later disturbed by the Leona Avenue Fault.

San Fernando Fault Zone. The earthquake epicenter of the February 9, 1971, seismic event was near the community of Newhall. Fault segments that were demonstrably involved in that event are, for the most part, east/west trending thrust faults with associated left lateral movement. The ground surface ruptures occurred on little-known pre-existing faults in an area of low seismicity and previously unknown historic ground displacement. The zone of displacement was approximately 12 miles long and had a maximum vertical movement of 3 feet. The fault plane dips northward at an angle of approximately 55 degrees from the horizontal. The recurrence interval for the San Fernando Fault is estimated to be approximately 200 years. It is located approximately 24 miles southeast of the Planning Area.

Sierra Madre Fault Zone. This fault zone is a series of north-tipping, reverse faults (thrust faults) located about 20 miles south of the Planning Area. The zone of faulting is very similar to, and may be within, the same system as the San Fernando fault zone which moved in 1971. Movement along these frontal faults has resulted in the uplift of the San Gabriel Mountains.

Geologic evidence indicates that the Sierra Madre fault zone has been active in geologically recent time and may be capable of generating a 7 magnitude event. Evidence supporting the recent activity of the fault zone is the thrusting of granitic rock over recent alluvial deposits, scarps that offset alluvial surfaces at several locations along the fault, and a general coincidence with a zone of epicenters of historic earthquakes of magnitude 4.0 to 4.9. Additionally, six earthquakes of greater than magnitude 4.5 have struck near Pasadena from 1987 to 1991, including a magnitude 5.8 in June 1991.

Garlock Fault Zone. This fault extends 200 miles northeast from Castaic Lake through the Tehachapi Mountains. The nearest point to the Planning Area is 30 miles northwest of Quartz Hill. It is a northeast trending fault system with a left lateral displacement.

Sierra Nevada (Owens Valley) Fault Zone. Beginning roughly 60 miles northeast of the Planning Area, the Owens Valley fault zone extends north for approximately 175 miles. The last major movement, which resulted in 27 fatalities out of a population of 300 in the town of Lone Pine, occurred on March 26, 1872.

White Wolf Fault Zone. This fault was not discovered until July 21, 1952 when it generated a magnitude 7.7 earthquake which produced surface faulting and 0.5 meters of vertical and lateral displacement. It is a northeast trending fault and experiences a reverse (south block elevated) thrust with some left lateral displacement. Originating just west of the I-5 and I-99 junction, it continues for approximately 50 miles and lies 55 miles northwest of Palmdale.

Subsidiary Faults Associated With The San Andreas Fault System

In the Planning Area, there are six major fault traces for the San Andreas Fault which are evident and have moved in recent times.

- Leona Avenue Fault. This fault transverses through the northwest part of Ritter Ranch. It is poorly expressed, suggesting only minor activity in the last 11,000 years. However, movement is anticipated on this splay during a large event on the San Andreas Fault.

- Littlerock Fault. This is a vertical (left-stepping) thrust fault. This fault has experienced the most recent movement of the associated faults. Over time, its character of faulting has included strike-slip, dip-slip with the north side uplifted, and reverse with uplift on the south side.

- Cemetery Fault. This fault moves sympathetically with the San Andreas Fault. It is characterized by a strike slip movement with a dip-slip component.

- Nadeau Fault. This fault's reverse faulting may be activated by the San Andreas Fault.

- Chesboro Fault. This fault experiences both reverse and normal faulting.

- Soledad Fault. This is a dip-slip fault with the north side dropping.

- Unnamed Faults. These are thrust faults which may move with the San Andreas Fault, but not necessarily with each event on the San Andreas Fault.

- Powerline Fault. This is an active trace located within the Planning Area. Movement on the San Andreas Fault may trigger movement on this fault.

- Clearwater Fault. The eastern end of this splay is located in the western end of the Planning Area. This fault may be activated by movement on the San Andreas Fault.

Fault Rupture Hazard

Ground rupture begins at the earthquake focus within the crustal rocks below the ground surface and then spreads outward in all directions in the fault plane. The edge of the rupture does not spread out uniformly. Its progress is jerky and irregular because crustal rocks vary in their physical properties from place to place. On the fault surface there are rough patches and structural complexities which act as barriers to the fault slip.

Thus, the rupture front may come almost to a stop; then may suddenly break free and swiftly move out to catch up with the rupture on either side of it. If this rupture reaches the surface, it produces a visible fault trace.

Geological evidence is used to determine the likelihood of future rupture along a fault. The potential for activity on a fault is described as active, potentially active, or inactive. Those faults that give evidence of surface displacement within Holocene time (the last 10,000 years) have the highest potential of generating earthquakes again and are described as active. In addition, to offset Holocene stratigraphy, structural distortion of near-surface Holocene deposits are also considered strong evidence for a high risk of fault rupture. Distinct landforms suggesting fault movement within the last 10,000 years include sag ponds, offset drainages, linear valleys, and springs. Faults that are poorly defined or inadequately studied, but have shown activity within the last 1.6 million years, are considered potentially active. As such, their recurrence rates may be tens of thousands of years long, but still capable of producing moderate to large earthquakes within the design life of many critical or long-lifetime structures. Faults which do not show evidence of displacement within Quaternary time are considered inactive and unlikely to produce moderate to large earthquakes or surface displacements within the design life time of man-made structures.

Surface rupture poses the most difficult seismic problem from an engineering standpoint, because it is economically impractical to design a foundation and structure to withstand the displacements of even fractions of a foot. Such offsets of the underlying strata can cause displacement in the foundation, causing buildings to crack and split and utility lines to break. From both economic and safety standpoints, it is best to avoid areas of high potential for fault rupture.

Groundshaking

One of the principal results of an earthquake is ground motion. Intense groundshaking expected at a building site acts as forces on a structure. The forces vary depending on: (1) the distance to the fault, (2) the magnitude of the earthquake, and (3) the local geology. Greater shaking can be expected at sites that are located on poorly consolidated material such as alluvium, sites immediately adjacent to the causative fault, or sites even at considerable distance in an earthquake event of great magnitude. The amount of groundshaking at a site is often expressed in terms of the peak acceleration relative to acceleration due to gravity (g). Ground acceleration

is the rate of increase of velocity of the ground, where each incremental change in rate can be related to increasing force acting on a structure. Thus, the greater the acceleration, the greater the force acting on a building site. Duration of strong shaking is also a factor. The longer the strong shaking lasts, the greater the damage to most structures.

Seismic shaking zones for the Planning Area were previously identified in Exhibit 3-9. Zone I areas, including the southern and central portions of the Planning Area, are likely to experience severe accelerations greater than 0.5 g; in Zone II, acceleration will be from 0.4 to 0.5 g. The effects of groundshaking will be somewhat mitigated if buildings are designed and constructed in conformance with current building codes and engineering practice. However, these hazards cannot be eliminated, and cannot be mitigated to a level of insignificance for Zone I areas. Earthquake hazards are discussed in greater detail in Section 4.12, Risk of Upset.

Groundshaking, heavy rains, or other ground disturbances can result in secondary hazards, such as landslides, liquefaction, seismic settlement, tsunamis (seismic sea waves), and seiches (waves generated in smaller bodies of water).

Hillside Stability and Liquefaction

The stability, erodability, and steepness of a slope determines its potential for slippage. A landslide can be triggered by any land disturbance such as heavy rains, earthquakes, or grading. Hillside construction techniques are generally required on 15 to 40 percent slopes to achieve substantial foundation support and stable soil conditions. It is recommended that development be avoided on slopes greater than 40 percent. Proper hillside management is essential due to the number of potential causes of slope failure. Landslides can be precipitated by the influence of improper slope design or poor grading practices. Other development-influenced failure may be caused by the malfunction of the structures designed to manage runoff. Improper slope maintenance of hillsides after development and/or broken water and septic facilities may also precipitate slope failure.

Heightened concern for hillside development is now justified more than ever, because of the possible development of potentially unstable hillside areas in the San Gabriel/Sierra Pelona Mountains, specifically the Ritter Ranch and other areas of steep slopes on the Planning Area's southern edge. This region includes unstable slopes and

areas subject to erosion and landslides. Rock failures are abundant in the San Gabriel/Sierra Pelona Mountains where large outcrops of crystalline and massive sandstone rocks occur on steep slopes throughout the entire area. Rock falls and slides occur in well-jointed, intact rocks throughout the hillside areas, while rock avalanches result from failure of the steep, unstable slopes, especially common on the northern slope of the mountain range.

In the Planning Area, the Sierra Pelona Mountains show evidence of gross and surficial slope instability. Slope failures on roadcuts and on steep slopes are evident. The Pelona (a rock formation whose type site is in the Sierra Pelona) in this area is highly folded and contains abundant foliations, shears, gouge zones, and internal faults. Potential hazards from debris flows are high. This portion of the Planning Area may be susceptible to flooding and erosion due to seasonal heavy rainfall and occasionally snow melt and runoff. Under existing conditions, the slopes of the Sierra Pelona are somewhat stable; however, alterations from grading could significantly affect the local slope stability.

Liquefaction describes a process in which groundshaking (>VII) can produce a sequence of stresses, or compression, that works loosely consolidated soil particles into a tighter packing, reducing the total volume of soil. As the soil is seismically compacted, the amount of pore space available for water is reduced, causing the groundwater to rise and saturate the soil. The soil may acquire a high degree of mobility and become a liquid, flowing mass. Two conditions must be present for liquefaction to occur: low-density grainy soils and a shallow groundwater table (<50 feet).

Areas susceptible to liquefaction include stream channels and floodplain deposits. In the Antelope Valley, this would include Amargosa Creek, Little Rock Wash, Anaverde Creek, and Big Rock Wash. Liquefaction potential also depends on the depth to groundwater. In the Planning Area, groundwater is generally 50 to 400 feet below the surface; thus, the potential for liquefaction is low. In some areas, however, faults act as dams blocking groundwater so that it rises and very shallow groundwater occurs, increasing the potential for liquefaction.

Seismic Settlement

Groundshaking from rupture on faults may cause loosely consolidated, low-density materials and fills to settle. Soil density describes the ratio between soil particles and pore space (filled with water or air) in a given volume of soil. When this ratio is low, the soil particles may collapse into the voids, lowering the ground surface.

Tsunamis and Seiches

The City of Palmdale is located approximately 90 miles from the Pacific Ocean at an elevation of approximately 2,500 feet msl. Therefore, the risk of damage from seismic sea waves (called tsunamis) need not be considered. Hazards associated with the California Aqueduct are discussed in Section 4.2.12, Earthquake.

Earthquakes could cause the rupture of the Lake Palmdale Reservoir and Little Rock Dam, resulting in area flooding as shown in Exhibit 3-15. Aside from dam failure and subsequent flooding, a seismic water wave (seiche) may occur at the Lake Palmdale Reservoir which would run up the slope and overtop the dam. The design report for the dam considers a reflection of the wave on return unlikely. Also, wave volume above the dam would not be substantial (approximately 1 acre-foot), and would not result in damaging floods. Flooding over the dam will not cause any damage to the embankment as the existing rockfall was designed to withstand such occurrences.

3.2 AIR QUALITY

Regional Setting

The Palmdale Planning Area lies within the Southeast Desert Air Basin (SEDAB), one of the largest air basins in California. SEDAB encompasses portions of the Los Angeles, Kern, San Bernardino, Riverside, and Imperial counties. In an effort to attain national and state ambient air quality standards, an Air Quality Management Plan prepared for SEDAB in 1979; unfortunately, the plan has never been updated for the Antelope Valley portion of SEDAB. Although the Antelope Valley and neighboring desert areas are separated from the highly populated and highly urbanized South Coast Air Basin (SoCAB) by the San Gabriel and San Bernardino Mountain Ranges, the Antelope Valley is often the recipient of ozone and related pollutants generated in the SoCAB. To control these pollutants, rules and regulations for both air basins are formulated by the South Coast Air Quality Management District (SCAQMD) with no distinction made between the two geographically separate and meteorologically unique air basins.

Under certain wind conditions, pollutants are also transported to the Antelope Valley from the San Joaquin Valley through the Tehachapi Pass.

In compliance with federal and state law, the SCAQMD has prepared an Air Quality Management Plan (AQMP) for the South Coast Air Basin to meet clean air standards. Since this plan was adopted in 1989, SCAQMD has applied the document to both the South Coast Air Basin and the Southeast Desert Air Basin. If, in the future, an attainment plan is prepared specifically for the SEDAB, the provisions of that plan will be applicable to Palmdale and the rest of the Antelope Valley.

The AQMP, last amended in 1991, contains "control measures" that are intended to improve air quality throughout the region. These measures are organized into three tiers: Tier I measures can be implemented at the present time with the current technology available; Tier II measures will be implemented in the near future

as technology allows; and Tier III measures require advancements in technology that will not be available for many years to come.

At the present time, the AQMP contains approximately 40 Tier I control measures which affect local governments. These control measures range from eliminating leaf blowers to implementing trip reduction programs. Involvement by local government to implement these measures varies, but includes providing enforcement of future district rules, adoption of ordinances, and modifications of local general plans.

The AQMP recognizes that there will be population and economic growth in the area and has recommended that air pollution control strategies take this into account. Downwind areas, such as Palmdale, should be allowed the same opportunities for relative growth as other areas in the two air basins. It is also assumed in the AQMP that equal control efforts will be exerted by all communities. The result of this approach is that all areas within the AQMP will need to achieve a higher level of emissions control if air quality standards are to be attained.

Climate

Climate and air quality are determined by the location, topography, and urbanization of an area. The climate of the southeast desert, as with all of Southern California, is governed by the strength and location of a semipermanent, subtropical high pressure cell over the Pacific Ocean. Climate is also influenced by the moderating effects of the oceanic heat reservoir. Ventilation from the sea air decreases with distance from the ocean producing monthly and annual temperature spreads that are greatest inland and smallest at the coast. Beyond the Transverse and Peninsular mountain ranges (where the SEDAB lies), distance from the sea is probably less important than altitude as a control of temperature. In general, hot summers, cold winters, infrequent rainfall, active air movement, and very low relative humidities characterize the climatic conditions for the majority of the region.

The terrain features of the SEDAB make it possible for various micro-climates to exist within the general area climate. The pattern of mountains and valleys are primarily responsible for the wide variations of rainfall, temperatures, and localized winds that occur throughout the region. Temperature variations have an important

influence on basin wind flow, dispersion along mountain ridges, vertical mixing, and photochemistry. Precipitation is highly variable seasonally. Summers are often completely dry. In the winter, an occasional storm from the high latitudes sweeps across the coast bringing rain. Annual rainfall is lowest in the low desert regions, higher in the high desert and foothills, and highest in the mountains.

Air Quality

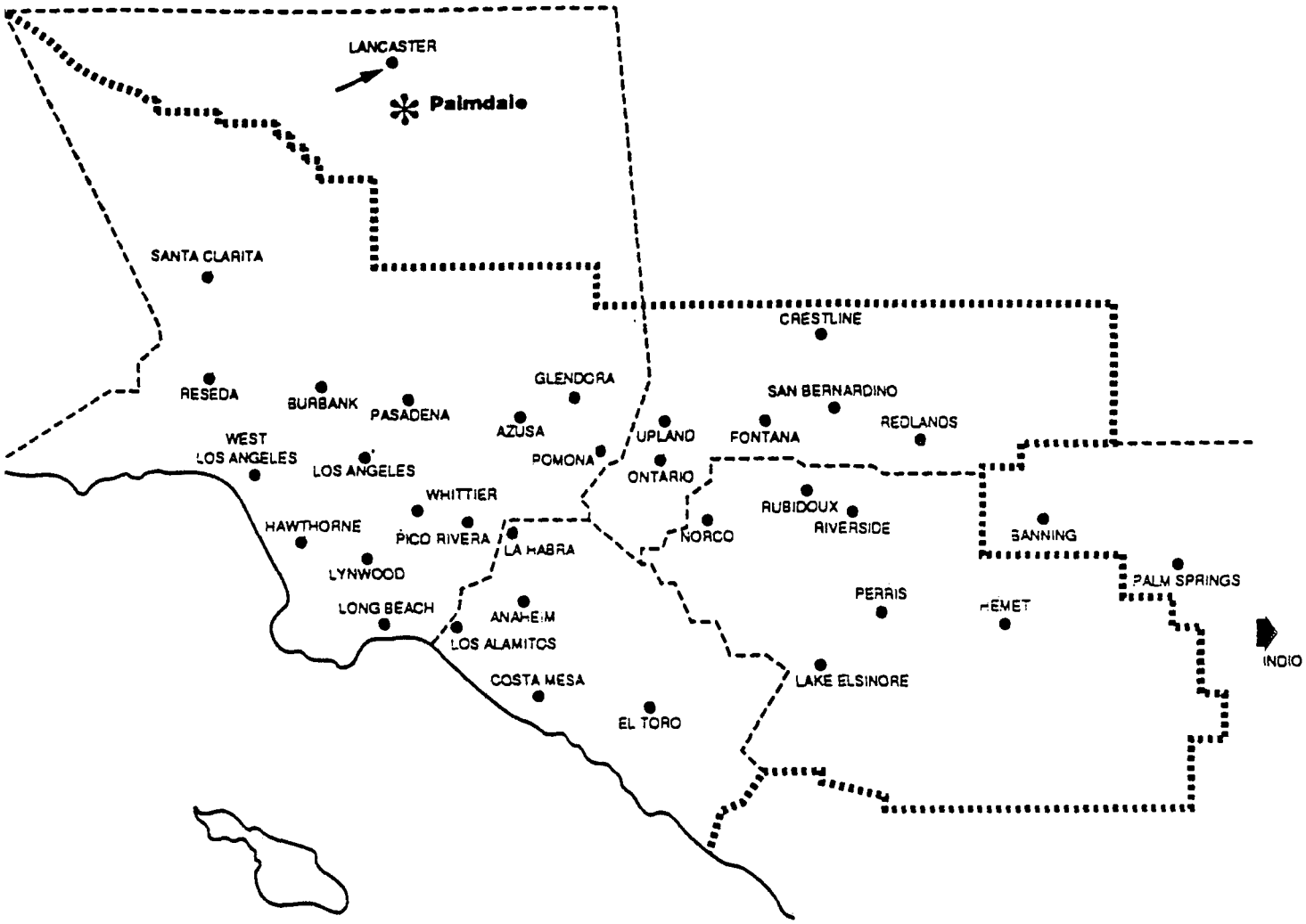
Air Quality Monitoring

The South Coast Air Quality Management District (SCAQMD) is responsible for monitoring air quality in both the SoCAB and the SEDAB. In addition, SCAQMD operates a monitoring station in SEDAB in the City of Lancaster, approximately 5 miles north of Palmdale. Exhibit 3-11 shows the location of the Lancaster monitoring station relative to the City of Palmdale and the other monitoring stations in the SoCAB. Pollutant readings taken at the SCAQMD monitoring station at Lancaster for the past 5 years are shown on Table 3-4.

Ambient air quality is described in terms of compliance with state and national standards. Ambient air quality standards (AAQS) are the levels of air pollutant concentration considered safe to protect the public health and welfare. They are designed to protect people most sensitive to respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. National AAQS were established by the U.S. Environmental Protection Agency (EPA) in 1971 for six air pollution constituents. States have the option to add other pollutants, to require more stringent compliance, or to include different exposure periods. California and National AAQS are listed in Table 3-5.

Attainment Status

The California Air Resources Board (CARB) is required to designate areas of the state as attainment, nonattainment, or unclassified for any state standard. An attainment designation for an area signifies that pollutant concentrations did not violate the standard for that pollutant in that area. A nonattainment



Legend

- SOUTH COAST AIR BASIN
- AIR MONITORING STATION
- STATIONS REPRESENTATIVE OF PLANNING AREA'S AIR QUALITY
- PALMDALE

SCAQMD Air Monitoring Network
Palmdale General Plan

North

0 12 24 MILES

Michael Brandman Associates

Exhibit 3-11

TABLE 3-4

SUMMARY OF ANNUAL AIR QUALITY DATA
LANCASTER AIR QUALITY MONITORING STATION

	1987	1988	1989	1990	1991
Ozone (O_3)					
State Standard (1-hr avg. >0.09 ppm)					
Federal Standard (1-hr avg. >0.12 ppm)					
Maximum 1-hr ambient concentration (ppm)	0.17	0.18	0.21	0.15	0.14
Number of days state standard exceeded	105	105	95	52	62
Number of days federal standard exceeded	32	44	27	7	8
Carbon Monoxide (CO)					
State Standard (1-hr: 20 ppm; 8-hr: 9 ppm)					
National Standard (1-hr: 35 ppm; 8-hr: 9 ppm)					
Maximum concentration 1-hr./8-hr. period	12/3.9	11/5.9	13/7.1	11/8.3	10/7.1
# of days state standard exceeded (1-hr/8-hr)	0/0	0/0	0/0	0/0	0/0
# of days national standard exceeded (1-hr/8-hr)	0/0	0/0	0/0	0/0	0/0
Nitrogen Dioxide (NO_2)					
State Standard (1 hr. avg. >0.25 ppm)					
Federal Standard (0.0534 AAM in ppm)					
Maximum 1-hr ambient concentration	0.09	0.09	0.08	0.09	0.11
Number of days state standard exceeded	0	0	0	0	0
Percent AAM above federal Standard	0	0	0	0	0
Total Suspended Particulates (TSP)					
State standard (24-hr. avg. 150 ug/m^3					
National standard (24-hr. avg. 260 ug/m^3)					
Maximum 24-hr concentration	187	257	154	217	N/M
% samples state 24-hr standard exceeded	N/A	N/A	N/A	N/A	–
% samples national 24-hr standard exceeded	N/A	N/A	N/A	N/A	–
Suspended Particulates (PM10)					
State standard (24-hr. avg. 50 ug/m^3)					
National standard (24-hr. avg. 150 ug/m^3)					
Maximum 24-hr concentrations	NM	NM	110	342	780
% samples exceeding state 24-hr. standard	–	–	45	38	19
% samples exceeding national 24-hr. standard	–	–	0	3	5

AAM = annual arithmetic mean
ppm = parts per million
NM = not monitored
ug/m^3 = micrograms per cubic meter
N/A = standard not applicable.
Source: California Air Resources Board, California Air Quality Data 1987 through 1991.

TABLE 3-5

AMBIENT AIR QUALITY STANDARDS

Air Pollutant	California Standard	National Primary	National Secondary
Ozone	>0.09 ppm, 1-hr avg [a]	>0.12 ppm, 1-hr avg.	0.12 ppm, 1-hr avg.
Carbon Monoxide	≥9.1 ppm, 8-hr. avg. >20 ppm. 1-hr. avg.	≥9.5 ppm, 8-hr. avg. >35 ppm, 1-hr. avg.	≥9.5 ppm, 8-hr. avg.[b] >35 ppm, 1-hr. avg.
Nitrogen Dioxide	>0.25 ppm, 1-hr. avg.	0.053 ppm, annual avg.	0.053 ppm, annual avg.[c]
Sulfur Dioxide	≥0.05 ppm, 24-hr avg. with ≥0.10 ozone or with 24-hr TSP ≥100 ug/m^3	0.03 ppm, annual avg.>0.14 ppm,24-hr avg.	>0.50 ppm, 3-hr. avg.
Suspended Particulate Matter[d] (PM 10)	>30 ug/m^3 annual geometric mean >50 ug/m^3, 24-hr. avg.	>150 ug/m^3, 24-hr avg.; >50 ug/m^3 annual arithmetic mean	>150 ug/m^3, 24-hr avg.; >50 ug/m^3 annual arithmetic mean
Sulfates	≥25 ug/m^3, 24-hr avg.[e]		
Lead	≥1.5 ug/m^3, 30-hr. avg.	>1.5 ug/m^3, calendar quarter	>1.5 ug/m^3
Hydrogen Sulfide	≥0.03 ppm, 1-hr avg.		
Vinyl Chloride	≥0.010 ppm, 24-hr avg.		
Visibility-Reducing Particles	In sufficient amount to reduce prevailing visibility to less than 10 miles at relative humidity less than 70%, 1 observation		

[a] Effective 3/9/87. The standard was previously ≥0.10 ppm, 1 hr avg.
[b] Effective 9/13/85. The standard changed from ≥9.3 ppm to ≥9.5 ppm
[c] Effective 7/1/85, standard changed from >.0532 ppm to >.0534 ppm
[d] Effective 7/1/87. The standards were previously:
Primary: Annual geometric mean TSP >75 ug/m3 and 24-hr avg. TSP >260 ug/m3
Secondary: Annual geometric mean TSP >60 ug/m3 and 24-hr avg. TSP >150 ug m/3
[e] Effective 3/9/87, standard changed from ≥25 ppm to >25 ppm

Note: ppm = parts per million by volume
ug/m3 = micrograms per cubic meter
> = greater than
≥ = greater than or equal to
TSP = total suspended particulates

Source:South Coast Air Quality Management District 1991.

designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation(s) was caused by an exceptional event, as defined in the criteria.

The air pollutants of most concern in the SEDAB are ozone and particulate matter. Carbon monoxide, sulfur dioxide, nitrogen dioxide, and lead levels are all below state and national standards. A brief discussion of criteria pollutants and the levels at which they occur in the SEDAB is provided below.

Ozone

Ozone is a colorless toxic gas that irritates the lungs and damages materials and vegetation. Levels of ozone exceed national and state standards throughout the SoCAB and SEDAB. Because ozone formation is the result of photochemical reactions between nitrogen oxides (NOx) and reactive organic compounds (ROC), peak concentrations of ozone occur downwind of precursor emission sources. Ozone readings in areas that lie at the base of the San Gabriel and San Bernardino Mountains are among the highest in the United States. When temperatures are hot enough to break the inversion layer, these mountains act as "chimneys," funneling ozone up their sides, out of the SoCAB and into the SEDAB.

The major ozone transport routes from the highly urbanized SoCAB into the SEDAB are the Soledad Canyon Pass, Newhall Pass, Cajon Pass, and Beaumont/Banning Pass. As ozone precursor emissions (pollutants which react in the presence of sunlight to form ozone) move across the basin, these emittants continue to react and to pick up new contaminants to add to the ozone-forming process. In former years, when population levels were low throughout the desert region, ozone which had been transported from the SoCAB was not augmented by ozone precursor emissions generated in the SEDAB. However, with the recent growth trends in the desert areas, ozone precursor emission sources -- principally automobiles -- have increased and, in future years, will continue to exacerbate the regional ozone problem.

The SEDAB is designated as a nonattainment area for the state ozone standard; except for the unclassified areas of Kern, northern/eastern San Bernardino, and eastern Riverside Counties, the SEDAB is in nonattainment of the national ozone standard as well. Ozone concentrations have exceeded the state standard an average of 84

days per year over the past five years at the Lancaster station. In 1991, the ozone concentration at this station exceeded the state standard of 0.09 parts per million (PPM) on 62 days.

Total Suspended Particulates/Particulate Matter

Particulate matter is composed of finely divided solids or liquids such as dust, soot, aerosols, fumes, and mists. On July 1, 1987, the EPA replaced the total suspended particulate (TSP) standard with a new particulate standard known as PM10. PM10 includes only particulate matter of 10 microns or less in diameter.

These smaller particulates are of concern because they are capable of penetrating the body's natural defense system and reaching the lungs. Prior to adoption of the PM10 standard, much of SEDAB was classified as nonattainment for TSP. Since adoption of the PM10 standard, the SEDAB has also been classified as nonattainment for PM10. On average, PM10 concentrations at the Lancaster monitoring station exceeded the state standard in approximately 33 percent of the samples taken over the past 3 years.

Carbon Monoxide

Carbon monoxide (CO) is a colorless gas, produced almost entirely from automobiles, that interferes with the transfer of oxygen to the brain. Peak levels of carbon monoxide occur in areas where there is heavy traffic, and are generally highest in winter. Local CO "hotspots" may occur at severely congested intersections, but in general carbon monoxide is not a problem in the Antelope Valley. In 1990, the maximum CO concentration measured at the Lancaster monitoring station was just over one-half the state's 1-hour standard, but over 90 percent of the state's 8-hour standard. The entire SEDAB is in attainment of both the national and state standards for CO.

Nitrogen Dioxide

Nitrogen dioxide (NO_2) is a reddish-brown gas that can cause breathing difficulties at high levels. Peak readings of nitrogen dioxide occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries, and other industrial operations) in the vicinity. Although some areas of the

SEDAB contain combustion sources, these sources are not in a concentrated area and are not numerous enough to cause high ambient nitrogen dioxide concentrations. Nitrogen dioxide levels in the Antelope Valley are well below the ambient air quality standards. In 1989, nitrogen dioxide concentrations measured at the Lancaster monitoring station were the lowest of any station monitored by the SCAQMD. The maximum concentration was less than one-third the state standard. The entire SEDAB is in attainment of the state and national nitrogen dioxide standards.

Sulfur Dioxide and Lead

Sulfur dioxide and lead levels in all areas of the SEDAB and SoCAB are below national and state standards. Both basins are in attainment for these pollutants.

Meteorological Influences on Air Quality

Meteorological conditions (such as light winds and shallow vertical mixing) and topographical features (such as surrounding mountain ranges) hinder the dispersal of air pollutants. Fortunately, the SEDAB is characterized by frequent and consistent daytime winds. The lack of vegetation allows active air movement much closer to the ground than is typical in more humid climates where the plant cover is profuse. In addition, most of the SEDAB is comprised of sweeping valleys and, although there are bordering mountain ranges, the topography of most of the region is conducive to dispersal of air pollutants.

Temperature and availability of sunlight influence air pollutant concentration and formation of secondary pollutants. During summer's longer daylight hours, plentiful sunshine provides the energy needed to fuel photochemical reactions between nitrogen oxides (NOx) and reactive organic compounds (ROC) resulting in ozone formation. Pollutants which react to form ozone are termed "ozone precursor emissions." Ozone formation requires adequate sunshine, early morning stagnation in source areas, high surface temperatures, strong and low morning inversions, greatly restricted vertical mixing during the day and daytime subsidence that strengthens the inversion layer. As discussed previously, ozone is frequently transported during the formation process, resulting in high ozone concentrations downwind from ozone precursor sources.

In the winter, temperature inversions occur close to ground level during the night and early morning hours. At this time, the greatest pollution problems are from CO and NOx. High carbon monoxide concentrations occur on winter days with strong surface inversions and light winds. Under normal meteorological conditions, CO disperses rapidly. Carbon monoxide transport is extremely limited, and highest concentrations are associated with areas of highest traffic density.

High nitrogen dioxide levels usually occur during the autumn or winter on days with summer weather conditions. These conditions include low inversions, limited daytime mixing, and stagnant windflow conditions. Although days are clear, sunlight is limited in duration and intensity, and photochemical reactions necessary to form ozone are incomplete.

As with ozone, a substantial fraction of PM10 forms in the atmosphere as a result of chemical reactions. Peak concentrations of both ozone and PM10 occur downwind of areas which emit high levels of nitrogen oxides, volatile organic compounds, and other precursor emissions.

Local Setting

The Palmdale Planning Area lies just north of the transverse mountain ranges, in an area of the high desert known as the Antelope Valley. Palmdale is situated near the edge of a large, flat-floored valley basin with average elevations of 2,450 to 2,700 feet above mean sea level. There are no major stationary sources of air contaminants -- such as large polluting facilities (power plants, factories, etc.) -- in the Planning Area. Residential, commercial, and industrial developments comprise a large portion of the valley, however, these areas are typically concentrated near the town centers of Lancaster and Palmdale. Traffic on Highway 14 and along the City's main roads are the major mobile source of emissions in the area.

Microclimate of the Antelope Valley Area

The City of Palmdale lies within the high desert microclimatic zone of California. The Antelope Valley is considerably warmer in summer than the areas that lie on the coastal side of the Transverse Range because the

cooling sea breeze is effectively obstructed. The Palmdale area is also much cooler in the winter than the marine or semi-marine climates because the sloping land favors the drainage of cold air.

Temperature has an important influence on wind flow, dispersion along mountain ridges, vertical mixing, and photochemistry. As distance from the ocean decreases, the moderating marine influence on temperature tends to diminish. The Palmdale area lies approximately 50 miles from the coast, a distance which minimizes the moderating marine influence and results in relatively large monthly and annual temperature spreads. Annual average daytime temperatures range from 97.7 degrees Fahrenheit (F) in summer to 58.6 degrees F in winter. Low temperatures average 65.0 degrees F in summer and 31.9 degrees F overnight in winter. During calm, clear winter nights, the basins and valleys of the desert receive the cool air that drains from the surrounding, higher slopes. Hence, a layer of frost (or ice) is common on winter mornings. Although snowfall varies with altitude, it is not unknown even in the lower areas of the high desert.

Precipitation

Rainfall is highly variable seasonally. Average annual precipitation in the area is 5.15 inches and occurs almost exclusively from November through early April. Summers are often completely dry, and there are frequent periods of four to five months with no rain. Annual rainfall is greater than that experienced in the low desert regions, but lower than that received in the nearby foothills and mountains. In general, precipitation is highly dependant on the large-scale winter weather patterns.

Winds

Winds across the project area are an important meteorological parameter since they control both the initial rate of dilution of locally generated air pollutant emissions as well as controlling their regional trajectory. Wind flow in the desert regions is typically much more pronounced than in areas of dense vegetation. The Antelope Valley is an area of high winds. The following analysis is based on long-term wind data recorded in the City of Palmdale.

Average daytime maximum speeds are approximately 14 miles per hour (mph) in the summer, decreasing to 9.5 mph during winter. The annual average flow is from the southwest at approximately 13 mph. The general flow for the area is interrupted by occasional winter storms and the Santa Ana winds.

1991 Emission Levels

Mobile Source Emissions

Mobile sources in the Palmdale area are comprised of conventional vehicles and aircraft. Present and future airport facilities will produce emissions from aircraft, support vehicles, and from vehicles of airport employees and customers.

Current mobile source emissions from conventional vehicles for the Palmdale Planning Area have been calculated using URBEMIS 3, a computer model developed by the California Air Resources Board (CARB). These calculated emission levels are shown in Table 3-6 with computer printouts presented in Appendix E. URBEMIS 3 calculates emission levels using trip generation factors relative to the size and type of a given land use, as well as weather temperature and mean vehicle speed. The land use designations used to calculate the 1990 emission levels for the Palmdale Planning Area are based on the draft Circulation Element prepared for the City by DKS in July 1992.

The estimated vehicle trips for existing land uses in the City total approximately 482,488 per day. As shown in Table 3-6, current mobile source emissions are estimated to be 9,189 pounds per day of total organic compound total organic compounds (TOC), 78,763 pounds per day of CO, and 11,905 pounds per day of NOx, 11,510 pounds per day of particulates of matter 10 microns or less in diameter (PM10), and 1,314 pounds per day of sulfur oxides (SOx). The reactive component of TOC/ROC, when combined with NOx, undergoes a series of complex photochemical reactions to form ozone. Approximately 90 percent of TOC is composed of ROC.

As discussed earlier, high levels of CO can interfere with the transfer of oxygen within the bloodstream. Because CO is a localized pollutant which disperses rapidly under favorable meteorological conditions, high levels of CO are typically found around congested intersections and roadways.

Stationary Source Emissions

Utility Emissions

Stationary source emission levels related to the consumption of natural gas and the generation of electricity currently required to serve the Palmdale Planning Area were calculated using emission factors contained in the SCAQMD's 1987 Air Quality Handbook. The current utility-related (electricity and natural gas) stationary source emissions are presented in Table 3-7.

As shown in Table 3-7, natural gas consumption and electricity generation emissions associated with the current land uses in the Palmdale Planning Area result in an estimated 559 pounds per day of CO emissions; 3,034 pounds per day of NOx emissions; 215 pounds per day of sulfur oxide (SOx) emissions; 73 pounds per day of particulate emissions; and 70 pounds per day of hydrocarbon (HC) emissions.

TABLE 3-6

1991 MOBILE SOURCE EMISSIONS FOR THE PLANNING AREA[a]
(lbs/day)

Land Use (Trip Rate)	Vehicle Trips	Pollutants TOC	CO	NOx	PM10	SOx
Single-Family (10.1/unit)	214,509	4,292.0	37,448	5,256	548	574
Multiple-Family (6.0/unit)	36,191	725	6,321	887	92	97
Mobilehome (4.8/unit)	9,485	190	1,655	232	24	25
Retail (275.2/acre)	145,560	2,474	20,383	3,467	4,611	386
Office (196.0/acre)	3,214	60	516	83	268	9
Industrial (51.8/acre)	46,496	1	8,313	1,300	4,239	147
Medical Office[g] (446.9/acre)	--	--	--	--	--	--
Commercial Manufacturing[g] (86.0/acre)	--	--	--	--	--	--
Recreational (3.7/acre)	2,478	41	338	58	48	6
Business Park (140.0/acre)	--	--	--	--	--	--
Special Generators (varies)	7,860	145	1,220	200	545	22
Public Facilities (558/acre)	1,746	30	252	42	100	5
Schools (1.3/student	14,931	275	2,317	380	1,035	43
Total	482,488	9,189	78,763	11,905	11,510	1,314

[a] Assumptions for trip lengths are listed in Appendix E.
[b] TOC: Total Organic compounds.
[c] CO: Carbon Monoxide.
[d] NOx: Nitrogen Oxides.
[e] PM10: Particulates less than 10 microns in diameter.
[f] SOx: Sulfur Oxides.
[g] New land use category. Existing uses have been distributed into retail, office, and industrial commercial categories.

Source: DKS Associates 1992; Michael Brandman Associates 1992; City of Palmdale Draft Circulation Element 1992.

TABLE 3-7

1991 STATIONARY SOURCE UTILITY EMISSIONS
(lbs/day)

	Pollutants				
Land Use	CO[a]	NOx[b]	SOx[c]	Particulates	HC[d]
Residential[e]	215	1,030	59	20	35
Commercial[f]	84	491	40	13	7
Industrial[g]	260	1,513	116	40	28
Total	559	3,034	215	73	70

[a] CO: Carbon Monoxide.
[b] NOx: Nitrogen Oxides.
[c] SOx: Sulfur Oxides.
[d] HC: Hydrocarbons
[e] Includes single-family, multiple-family, and mobilehome units.
[f] Includes retail, office, business park, recreation, public facilities, and schools.
[g] Includes industrial, USAF Plant 42, and airfield-related development uses.

Source: Michael Brandman Associates 1992 and SCAQMD 1987.

The electricity supplied to the City of Palmdale is not generated within the Antelope Valley. In fact, utility companies often receive power generated at various power plants throughout the nation. It is difficult to trace where the power which serves a particular area is generated or where the associated emissions from the power generation to serve that area are being that area are being emitted. This is important to note because utility-related emissions do not necessarily increase the air pollutant levels within the same basin that the utility company serves. This is true for Palmdale; emissions from the electricity generated to serve the City of Palmdale do not contribute to local, or even basin air quality pollutants. They do, however, contribute on a regional scale to emission levels within the vicinities of the power generating facilities.

Other Stationary Source Emissions

Unlike emissions from utility generation, stationary sources within Palmdale directly affect the local air quality. Some equipment used by the various land uses in the Planning Area, such as heating/cooling equipment, consumer products, dry cleaning equipment, gasoline pumps, restaurant equipment, and even home barbecues, have the potential to emit or significantly alter pollutant concentrations. Although it is difficult to calculate emission levels from existing stationary sources without accurate data on the amount, type, and operation of such equipment, it is important to note that these types of stationary sources can comprise a significant portion of pollutant sources in an area. Emissions from existing stationary sources in the Palmdale Planning Area are not quantified in this analysis and represent a potentially substantial increase in local and regional emission levels.

Short-Term Emissions

Construction Emissions

Heavy construction is a source of fugitive dust and exhaust emissions that may have substantial temporary impacts on local air quality. Building and road construction are the primary construction activities with the highest emissions potential. Emissions during the construction of development projects are associated with land clearing, blasting, ground excavation, cut-and-fill operations, and the construction of the structures. Construction emissions vary substantially from day to day depending on the level of activity, the specific operations, and the prevailing weather.

Preparation for building construction produces two types of air contaminants: exhaust emissions from construction equipment and fugitive dust generated as a result of soil movement. These construction impacts occur during all phases of development.

Exhaust Emissions From Construction Equipment

Exhaust emissions from construction activities include those associated with the transport of workers and machinery to the site, as well as those produced onsite through operation of heavy construction equipment. Exhaust emissions vary substantially from day-to-day, depending on the amount and types of equipment in operation, as well as the custom of use. Table 3-8 presents exhaust emission factors for various types of equipment used during construction operations.

TABLE 3-8

EMISSION FACTORS FOR EQUIPMENT AND VEHICLES

Emission Source	Units	CO[a]	HC[b]	NOx[c]	SOx[d]	Particulate[e]	Factor Source
Diesel Powered							
Dozer	lb/hr	1.794	0.192	4.166	0.348	0.165	AP 42,II-7.1
Off-Highway Truck	lb/hr	1.794	0.192	4.166	0.454	0.256	AP 42,II-7.1
Loader	lb/hr	0.572	0.250	1.890	0.182	0.172	AP 42,II-7.1
Grader	lb/hr	0.151	0.040	0.713	0.086	0.061	AP 42,II-7.1
Scraper	lb/hr	1.257	0.282	3.840	0.463	0.406	AP 42,II-7.1
Roller	lb/hr	0.304	0.067	0.862	0.067	0.050	AP 42,II-7.1
Forklift/Bobcat	lb/hr	0.434	0.160	2.01	0.133	0.143	AP 42, Tbl 3.3-1
Diesel Crane	lb/hr	0.675	0.152	1.691	0.143	0.139	AP 42,II-7.1
Pile Driver	lb/hr	0.434	0.160	2.01	0.133	0.143	AP 42, Tbl 3.3-1
Gasoline Powered							
Light Truck	g/mi	14.310	1.343	1.230	NA	NA	EMFAC7C
Worker Auto	g/mi	11.160	0.823	0.886	NA	NA	EMFAC7C

[a] Carbon Monoxide.
[b] Hydrocarbons.
[c] Nitrogen Oxides.
[d] Sulfur Oxides.
[e] Particulate Matter

Source: California Air Resources Board, Environmental Protection Agency.

Fugitive Dust Emissions

Clearing, grading, utility excavation, and travel on unpaved surfaces contribute a large quantity of fugitive dust. A large portion of the emissions also results from equipment travel over unpaved roads at the construction sites. CARB estimates that each acre of soil disturbed creates about 110 pounds of dust per workday during the construction life of any project. This value depends on soil moisture, silt content, wind speed, construction density, and many other factors. Wetting procedures reduce fugitive dust emissions by 50 to 75 percent, but do not eliminate it.

Reactive Organic Compound Emissions from Construction Activities

In addition to dust and exhaust emissions, certain construction activities result in the emission of reactive organic compounds. The applicant of paints and other architectural coatings are one of the primary sources of these emissions. Reactive organic compounds are also generated by asphalt paving. These compounds are the precursors to pollutants such as ozone.

3.3 WATER RESOURCES

3.3.1 GROUNDWATER RESOURCES

Topography and Physiography

The Antelope Valley is not a true valley; it is a closed topographic basin, with no surface drainage outlets. Physical barriers enclosing the area include rugged mountains, smooth buttes, and alluvial fans. The valley is a part of the Mojave structural block, a down-faulted structural depression related to the growth of the Transverse Ranges (Santa Monica, San Gabriel, and Santa Susana Mountains to the south). The valley began its formation millions of years ago when streams began to deposit alluvial debris into the basin, creating a broad alluvial fan (Leighton and Associates 1990).

An alluvial fan is a very common desert landform built as flood waters transport sand and gravel from the mountains to lower elevations. Visually, it appears as a low cone of alluvial sands and gravels resembling the outline of an open fan. The apex, or central point, of the fan lies at the mouth of a canyon or ravine. The fan is built out on an adjacent plain. Alluvial fans are of many sizes; some desert fans are many miles wide. The alluvial fan of the Antelope Valley extends up to 15 miles from the base of the canyons within the San Gabriel Mountains. The thickness of the alluvium varies; course sedimentary deposits in excess of 2,000 feet have been documented by the Department of Water Resources (DWR 1966). Durbin (1978) documents the sediments to be as thick as 8,000 feet locally. An economically important aquifer occurs within these sedimentary deposits.

Water infiltrates the Antelope Valley alluvial fans percolating to lower sand levels that serve as aquifers. Sand can hold an abundant amount of groundwater because the porosity and permeability of this material is high. Groundwater moves freely through such coarse sediments.

Hydrogeology

The alluvium is underlain by consolidated rocks that hold little or no water. These rocks are exposed in the mountain highlands. Although these rocks are impermeable, they are important because of their location in the mountains and hills where they capture the majority of precipitation within the drainage area and direct it to the aquifer. Runoff from the highland areas is the primary contribution to the groundwater basin in the alluvial fans (DWR 1966). The consolidated rocks consist of pre-Tertiary aged igneous and metamorphic rocks and continental rocks interbedded with volcanic flows of Tertiary age.

The alluvium consists primarily of unconsolidated to moderately hardened gravel, sand, silt, and clay. Older alluvial deposits are more compacted, coarser grained, and more weathered than the younger alluvium. The ability of this strata to store and transmit groundwater decreases with increasing age, and, therefore, increasing depth. Durbin (1978) divides the alluvial deposits into seven lithographic units:

- Older fan deposits. These deposits are moderately to highly compacted and yield very little to wells.
- Older alluvium. These are coarse grained, weathered, moderately well sorted, and up to 5,000 feet thick locally. This formation represents the bulk of the water-bearing deposits.
- Younger fan deposits. This consists of poorly sorted boulders, gravels, sand, silt, and clays.
- Younger Alluvium. This consists mostly of sand and gravel. These deposits were the main source of groundwater prior to 1945, but have been dewatered since. The DWR (1966) maintains that the young alluvium generally occurs above the water table and therefore is not an important water-bearing unit. It does allow precipitation and runoff to infiltrate into the groundwater body. Thus, they act as conveyors of water, but generally do not store a significant quantity.
- Lakeshore Deposits, Old Wind-Blown Sand, and Dune Sand. These deposits occur above the regional water table and do not contain significant quantities of water. The dune sand is composed of actively drifting fine to medium sand and in some places it contains small quantities of perched water.

Snyder (1955) references an eighth lithographic unit:

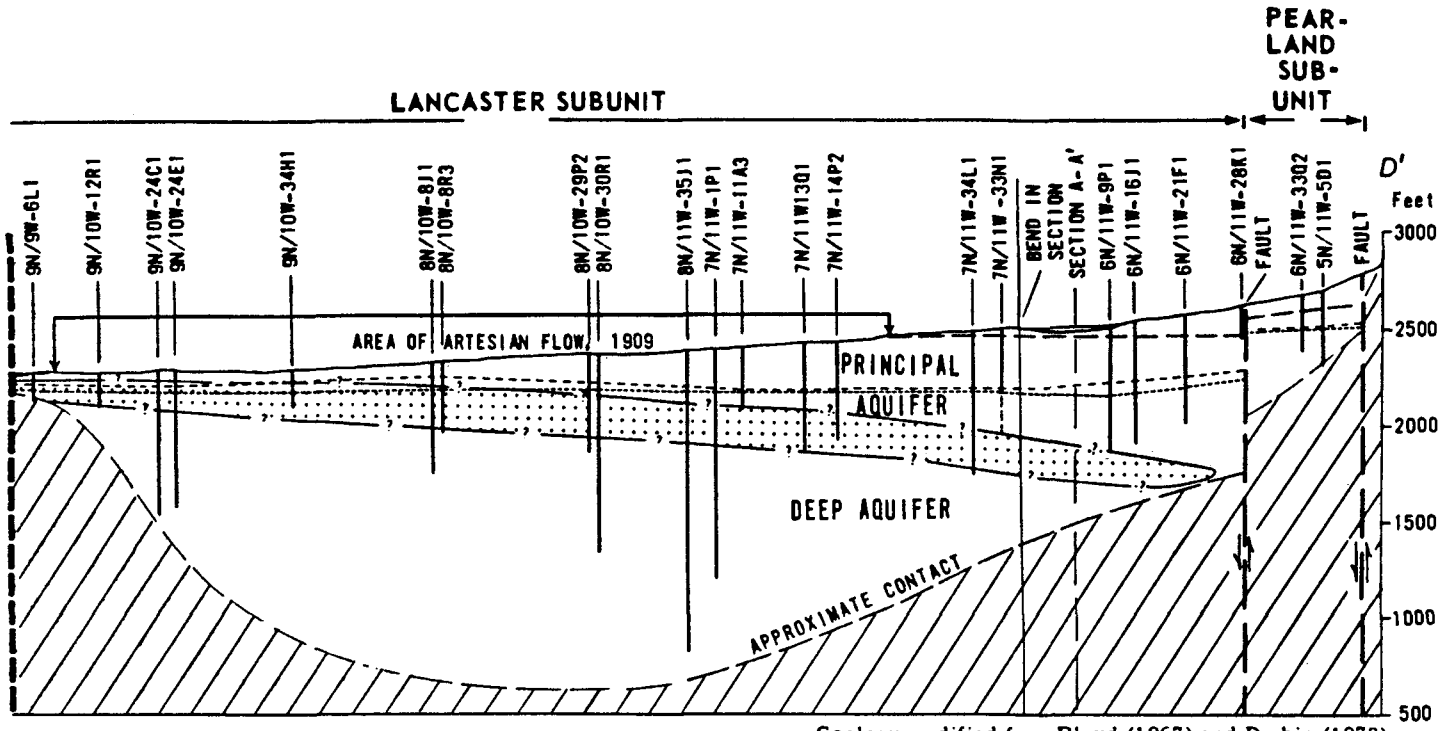
- Playa Deposits. These deposits are composed of silt, clay, and sandy clay with small amounts of soluble salts. The playa deposits are generally above the water table and are of little or no importance with regard to groundwater in the area. Runoff which reaches the central portion of the valley during torrential events carries the finest particles. Because the slope ceases, ponding occurs and a lake is formed which usually contains a few inches of water. The ponded water evaporates, leaving a deposit of clay, silt, and salt. This flat-floored bottom of the undrained desert basin is known as a playa, of which there are three in the Antelope Valley. These silt-clay-salt deposits can act as a confining barrier to movement of groundwater, creating artesian (pressure) conditions.

Alternating layers of lacustrine (lake) deposits occur within the alluvium. During the depositional history of the Antelope Valley Groundwater Basin, a large lake occupied a portion of the Lancaster and North Muroc subbasins. Fine grained lacustrine deposits formed in this lake.

During the deposition of the lacustrine deposits, alluvial debris, supplied from the San Gabriel Mountains, encroached upon the lake, forcing it northward and causing northward transgression of the alluvium over the lacustrine deposits. Near the southern limit of the Lancaster Subbasin, the lacustrine deposits are buried beneath as much as 800 feet of alluvium. Near the northern limit, however, the lacustrine deposits are exposed at the land surface.

The lacustrine deposits underlie the central part of the Lancaster subbasin and the southwestern part of the North Muroc subbasin. Their thickest section is near the center of the Lancaster subbasin and thins toward the edges. At the northern and southern boundaries of the Lancaster subbasin, the lacustrine deposits terminate against the buried escarpments that have formed on the consolidated rocks. The thickness of the lacustrine deposits at the northern and southern boundaries are 100 and 200 feet, respectively.

The lacustrine deposits divide the basin vertically into two separate aquifer systems: the Principal aquifer system and the Deep aquifer system as depicted in Exhibit 3-12. Water is prohibited from moving vertically between the aquifer systems by the lacustrine deposits and horizontally between subunits by fault zones, as shown in Exhibit 3-13.



Geology modified from Bloyd (1967) and Durbin (1978). Lacustrine deposits shown diagrammatically

Legend

UNCONSOLIDATED DEPOSITS

LACUSTRINE DEPOSITS

CONSOLIDATED ROCKS

FAULT—Approximately located; arrows indicate direction of relative vertical movement

9N/15W-11K1 WELL--Dashed where perforated

WATER LEVEL, 1909

WATER LEVEL, 1964

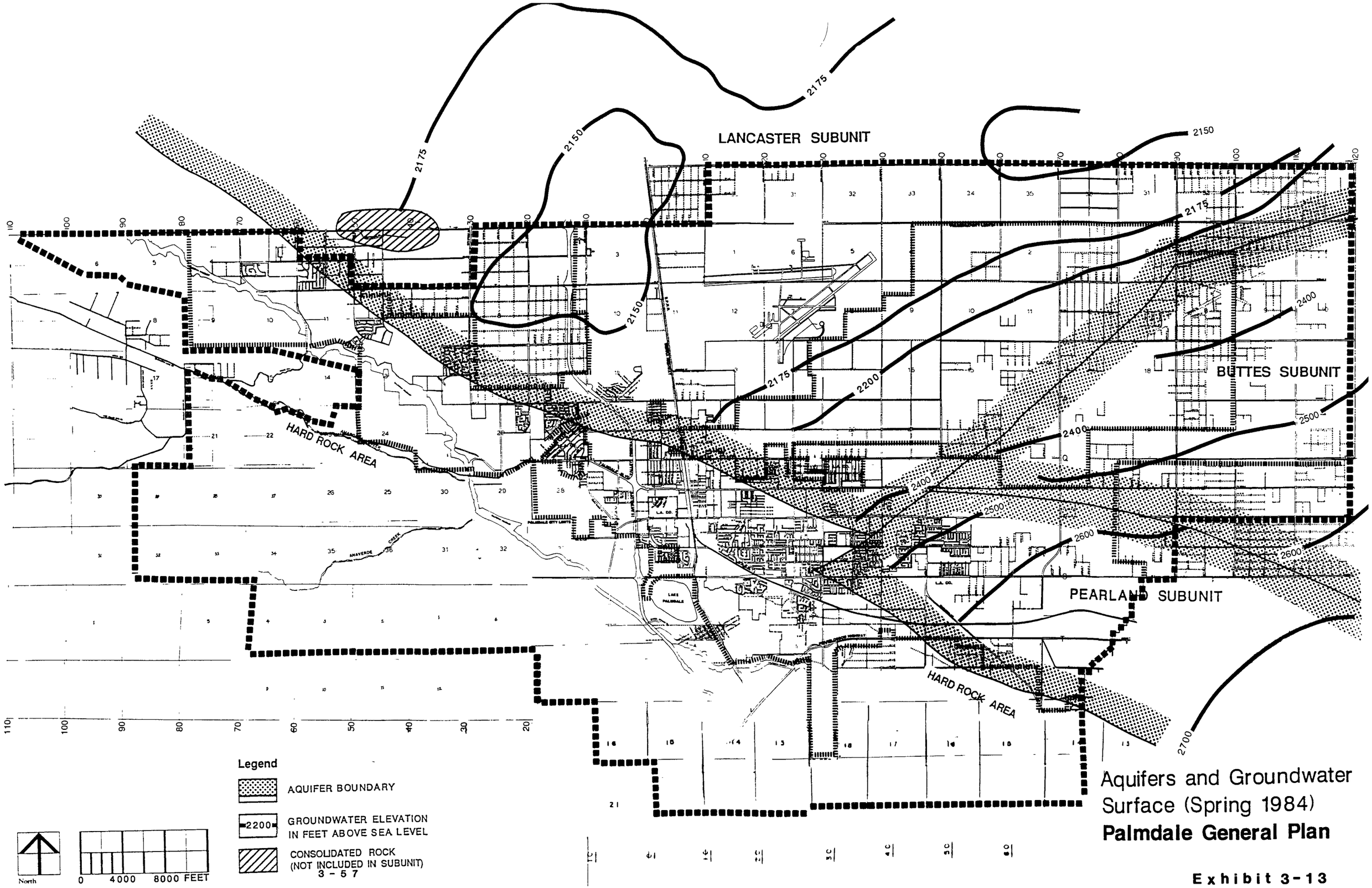
WATER LEVEL, 1982

Source: United States Geological Survey, Geohydrology of the Antelope Valley Area, California, and Design for a Ground-Water-Quality Monitoring Network, 1987.

Cross Section of Lancaster Subunit

Palmdale General Plan

Exhibit 3-12



Aquifers and Groundwater Surface (Spring 1984)
Palmdale General Plan

Exhibit 3-13

The principal aquifer supplies nearly all of the groundwater in the region. This aquifer occurs in the younger, upper alluvial deposits that overlie the lacustrine deposits and is characterized as an unconfined aquifer. In an unconfined aquifer, the water table can receive recharge from above and can rise up and down freely within the aquifer in response to changes in the amount of recharge received.

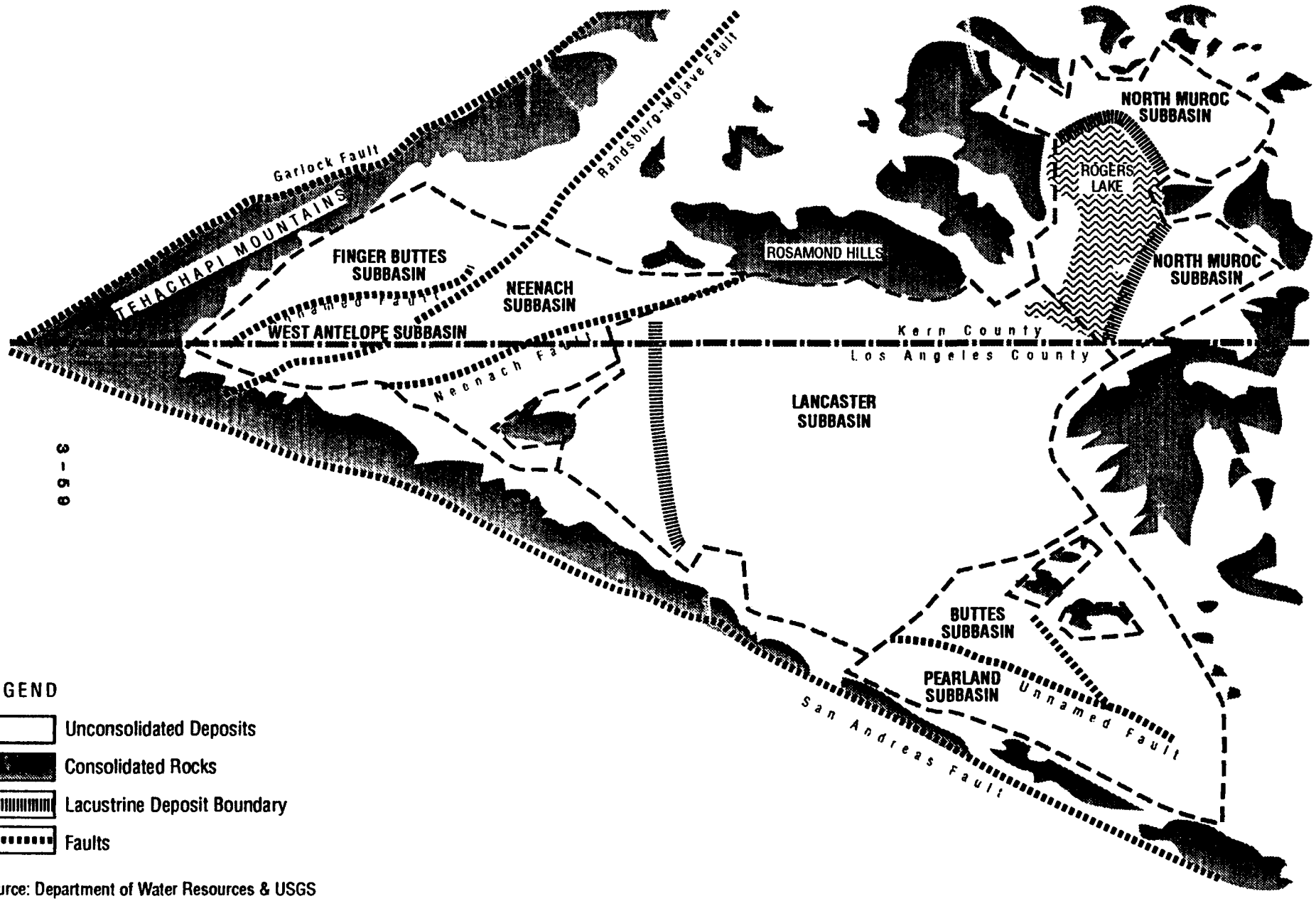
The Deep aquifer lies beneath the lacustrine deposits east and north of Rogers Dry Lake. This area includes the North Muroc subbasin and part of the Lancaster subbasin. In this area where the deep aquifer is overlain by the lacustrine deposits, the aquifer is confined; in other areas it is unconfined. A confined aquifer is overlain by an impermeable rock layer, such as the lacustrine deposits, so that the aquifer can only receive recharge at an exposed outcrop.

Occasionally, lenses of impermeable rock occur above the water table which hold water and prevent it from moving downward. Semi-perched groundwater occurs at depths between 10 and 200 feet below the surface. After heavy irrigation or local recharge above the principal aquifer and in areas of poor soil drainage, saturated zones occur locally at the shallower depths (Lewis et al. 1968).

Subbasins

The Antelope Valley Groundwater basin has a total surface area of 900 square miles and is divided into several subunits (Durbin 1978). These subunits are drawn according to geologic formations such as faults and consolidated rock which limit the flow and exchange of groundwater between subunits. Water levels can vary by as much as 300 feet across the Randsburg-Mojave Fault. Along other faults, the water table is measurably higher on the upgradient side of the fault than on the down gradient site. As shown in Exhibit 3-14, the Antelope Valley Groundwater Basin is composed of seven subunits: Lancaster, Buttes, Pearland, Neenach, West Antelope, Finger Buttes, and North Muroc (Lewis et al. 1968). Three of these subunits, Lancaster, Pearland, and Buttes, supply groundwater to the Palmdale Planning Area:

- Lancaster Subbasin. The northern extremity of the Lancaster subunit lies in Kern County where it is bounded by the Rosamond Fault, the Rosamond and Bissell Hills, and the near-surface bedrock of Rogers Lake. The Neenach Fault is the northwestern boundary of the Lancaster subunit; unnamed faults make up the southern and southeastern boundary. The



LEGEND

- Unconsolidated Deposits
- Consolidated Rocks
- Lacustrine Deposit Boundary
- Faults

Source: Department of Water Resources & USGS

Antelope Valley Groundwater Basin
Palmdale General Plan

North

Exhibit 3-14

eastern boundary of the subunit is formed by the impermeable rocks which form the hills in the Hi Vista area. The Lancaster subunit is the largest of the seven units, and, as such, has the greatest number of water wells. Locally, groundwater movement is influenced by pumping within the subbasin and will move toward several pumping depressions. Prior to the active pumping of groundwater, the gradient was northward, and, generally, groundwater moved toward the dry lakes. Perched groundwater occurs at depths less than 50 feet and may approach depths of less than 25 feet after heavy rains or intensive irrigation.

- Buttes Subunit. The subunit is bounded on the northwest, northeast, and southwest by unnamed faults. Groundwater flow is restricted to the southeast by a groundwater divide between the Antelope Valley and the El Mirage Valley drainage area on the east. Groundwater generally flows northwesterly until it reaches the impermeable rock that forms the Alpine, Lovejoy, and Piute Buttes. The depth of saturated alluvium within the Palmdale Water District pumping area is approximately 150 feet.

- Pearland Subunit. The subunit is bounded on the north, west, and south by unnamed faults. The consolidated rock of the San Gabriel Mountains forms the southeastern boundary of the subunit. Groundwater flows northwesterly in this subunit. The saturate alluvium is approximately 250 feet thick in this subunit and there are no known pumping depressions or perched conditions. Water occurs between 100 and 250 feet below the surface.

Groundwater moves centripetally from the base of the San Gabriel and Tehachapi mountains toward the north-central part of the Lancaster subbasin. Groundwater in the Neenach, West Antelope, and Finger Buttes subbasins move into the Lancaster subbasin at the western limit of the lacustrine deposits. A portion of the groundwater migrates over the lacustrine deposits and within the Principal aquifer. The balance moves under the lacustrine deposits and within the Deep aquifer. All the groundwater in the Buttes and Pearland subbasins migrates into the Lancaster subbasin over the lacustrine deposits and within the Principal aquifer.

Table 3-9 estimates depth to groundwater at various locations.

TABLE 3-9

DEPTH TO GROUNDWATER

Point on Exhibit 17	Groundwater Elevation	Ground Elevation	Depth to Groundwater
1	2150	2585	435
2	2150	2530	380
3	2175	2575	400
4	2175	2516	341
5	2175	2500	325
6	2200	2520	320
7	2200	2540	340
8	2400	2585	185
9	2500	2627	127
10	2600	2719	119

Source: Los Angeles County Public Works 1990.

Recharge

Recharge to the groundwater basin may occur by: (1) subsurface flow from adjoining areas, (2) direct infiltration of rain, and (3) percolation of runoff from streams that drain the San Gabriel Mountains.

The most important source of groundwater recharge in the basin is surface runoff from the highland areas. The total drainage area, tributary to the Antelope Valley groundwater basin, is 385 square miles (Durbin 1978). The principle suppliers of stream runoff are Big Rock Wash and Little Rock Wash. Lewis et al. (1968) suggest that these washes contribute from 35 to 47 percent of the total runoff. Durbing (1978) believes these creeks provide 58 percent of the runoff. The majority of the remaining stream contributions come from ephemeral streams of

the San Gabriel and Tehachapi Mountains. Little Rock Dam is designed to retain storm flows from Little Rock Wash and transport a portion to Lake Palmdale through the Palmdale ditch. Lake Palmdale also stores untreated California Water Project water for treatment at the Palmdale Water District's treatment plant as needed.

The California State Department of Water Resources (DWR) has estimated that the average annual recharge of the groundwater basin from stream flow is 40,280 acre-feet. Durbin (1978) estimated this figure to be 40,700 acre-feet. Los Angeles County Public Works (PWD 1991) states that annual natural recharge varies from a minimum of 40,700 acre-feet to a maximum of 76,000 acre-feet, for an average of 58,000 acre-feet per year. This represents the natural recharge rate of the aquifer from annual stream discharge to the groundwater basin. The DWR (1980) estimated total possible water storage in the groundwater basin, if the alluvium was completely saturated, to be 88 million acre-feet. The Los Angeles County Public Works (1991) has estimated this figure at 68 million acre-feet.

Of the three potential variables for groundwater recharge, subsurface flows from adjoining areas is the least probable means of recharge. The contributions of rainfall on the valley floor to groundwater supplies are negligible. Rainfall on the valley floor averages slightly over five inches a year and most of the precipitation that reaches and remains on the valley floor is evaporated or consumed by plants. In contrast, the San Gabriel Mountains average 12 inches of precipitation a year and may reach a maximum of 20 inches annually.

Another possible source of recharge is return from excess irrigation, which may also contribute flows to the groundwater basin along with the natural recharge from stream flow. Often, water in excess of that required by plants is applied to control the salt level of soil. The water not taken up by plants, evaporated, or held in the upper layers of the soil may percolate to the groundwater. Durbin (1978) estimates that 30 percent of irrigation water used in the area percolates to the groundwater.

Discharge

In its natural state, discharge from the groundwater basin would equal recharge. Discharge occurs through three mechanisms: (1) springs, (2) subsurface outflow, and (3) evapotranspiration. Of these three processes, water loss to springs is the least significant, accounting for less than 300 acre-feet per year.

Subsurface out-flow occurs along the divide between the Antelope Valley and Fremont Valley to the north. The divide is underlain by approximately 1,000 feet of unconsolidated deposits which allow 1,000 acre-feet a year to pass into the Fremont Valley.

Transpiration occurs when the water table is within 10 feet of the groundsurface where it is obtainable by some plants. If the groundwater is within one foot of the groundsurface, water loss will occur by direct evaporation. Durbin (1978) states that evapotranspiration accounts for the loss of 39,400 acre-feet of water per year.

The onset of groundwater withdrawal for irrigation in 1915 altered the natural inflow-outflow equation. With pumping, the net extraction became greater than the natural recharge rate and resulted in declining water levels. It should be noted that there is disagreement on these storage and extraction figures. It appears, however, that in the past, withdrawals had been greater than the safe yield: that is, extraction exceeded the rate at which water can be safely withdrawn each year from the aquifer without an overdraft occurring. The safe yield is generally equal to the recharge rate. An annual draft of water greater than the safe yield is considered overdrafting and will reduce the total water stored in the aquifer. Although the groundwater basin has the ability to hold 88 million acre-feet of water, approximately 13 million acre-feet has been overdrafted, leaving 55 million acre-feet in storage (PWD 1991). The Antelope Valley United Water Purveyors Association (AVUWP) states that by 1972, 7.68 million acre-feet had been overdrafted.

Sustained overdrafting from 1915 until the early 1970s has resulted in lowering the water table below the depth of the wells (approximately 200 feet in Lancaster), thereby diminishing well productivity, as well as increasing the cost of pumping. Overdrafting has also led to land subsidence in the Edwards Air Force Base area and in the northern part of Lancaster. There has been no evidence of subsidence in the Palmdale Planning Area.

Rates of decline ranging from 1 foot per year in nonpumping areas to 12 feet per year in existing pumping depression drawdowns of 100 feet or more are not uncommon during the summer pumping season. Although no current data are available, USGS estimates a 200-foot decline in the water table in the last 60 years. Some water districts serving the Planning Area have reported 6-foot declines per year in their wells. To counteract overdrafting, the Los Angeles County Department of Public Works has established recharge programs in the region. In 1987-88, 2,927.1 acre-feet of local water was spread in the Big Rock area to reduce the groundwater overdraft. Still, groundwater levels have declined steadily in the Lancaster Basin.

There are three major water purveyors extracting groundwater from the basin, the Palmdale Water District, the Los Angeles County Water Districts, and the Littlerock Irrigation District. In addition, there are 58 smaller water districts pumping groundwater in the Antelope Valley Basin. Since the Antelope Valley groundwater basin is not adjudicated, it is not governed by a watermaster and does not have a water management plan; there are no restrictions on groundwater extractions. There is disagreement among local agencies whether overdrafting is occurring in the Antelope Valley groundwater basin. In order to obtain conclusive information, a multi-agency study would need to be conducted and, eventually, a groundwater management plan needs to be established.

The chemical quality of the groundwater in the Mojave Basin is generally satisfactory for domestic use and irrigation, as well as for most commercial and industrial uses. Total dissolved solids range from 200 to 800 milligrams per liter, with hardness as high as 1,950 milligrams per liter near Rogers Dry Lake. Although the present quality is satisfactory, there is a trend toward poorer groundwater quality, due to urban runoff, septic tank failures, declining water tables, and the perched conditions in Lancaster.

The Planning Area receives supplemental water from the State Water Project (SWP). Existing SWP facilities are capable of delivering a total of 2.3 million acre feet per year to all customers, including the Antelope Valley purveyors, during years of average rainfall, and up to 3 million acre feet per year in a wet year. The Antelope Valley-East Kern Water Agency (AVEK), Palmdale Water District (PWD), and Littlerock Irrigation District (LID) contract for SWP water. The contract amount is the maximum entitlement of each contractor and is based on each contractor's long-term need. The current contract entitlement of the SWP for the three agencies is 158,000 acre-feet per year, of which a treatment capacity of 91,092 acre-feet per year (82 mgd) has been developed. In 1989, the agencies requested 66,071 acre-feet, or 42 percent of their total entitlement, and received

54,676 acre-feet, or 35 percent of their total entitlement. In 1991, AVEK received only 9,600 acre-feet from the SWP, or 7 percent of their total entitlements.

Future Sources

It will be necessary to secure an increased water supply in order to meet future demand. Future sources of additional water may include local groundwater, imported SWP water, water in storage, wastewater reclamation, water purchased from other localities, and water conservation. To meet the needs of the projected growth for the year 2010 and city buildout, it will be necessary for the local purveyors to secure their full entitlements of 158,000 acre-feet per year of SWP water.

Wastewater reclamation from sewage treatment plants can provide an additional source of water for nondomestic uses such as golf courses, park and roadway landscaping, agriculture irrigation, and groundwater recharge. Using reclaimed water for these functions makes available larger quantities of higher quality water to meet the growing demand for potable water consumption. Currently, reclaimed water is used to support a wetland area adjacent to Edwards Air Force Base and irrigate an alfalfa field.

It may also be necessary to store water during wet years or when excess SWP water is available in order to secure future SWP water supply. The accumulated water in storage would then be available during dry cycles or periods of cutback without adversely affecting the groundwater basin. As mentioned previously, there is approximately 13 million acre-feet of storage capacity in the Antelope Valley Groundwater basin for this purpose. The storage of water in the basin can be accomplished by spreading SWP water and letting it percolate to the groundwater or by injecting into wells. This water may require testing and treatment prior to introduction into the groundwater. Another method would entail maximizing the use of SWP water to meet water demands, reducing the demands on local groundwater, and thereby banking the natural basin recharge.

3.3.2 SURFACE WATER

Although the City of Palmdale is considered dry desert land, there are surface water sources in the area. Local streams are formed from rain and melting snow on the mountains. Amargosa Creek flows from the northern slopes of the Sierra Pelona Mountains through Leona Valley, into Palmdale around 25th Street West and Elizabeth Lake Road, and follows the Antelope Valley Freeway northward into Lancaster near the Rosamond and Rogers Dry Lake. At the Dry Lakes, silt contained in stormwater from the drainages resurface the dry lake beds and facilitates their use for landings of air and space craft, such as the space shuttle.

The Anaverde Creek travels along Sierra Highway and into the Unites States Air Force (USAF) Plant 42 retention basin. Little Rock Wash starts at the San Gabriel Mountains in Little Rock Canyon, travels west and across the east side of Palmdale around 80th Street East, then north toward Rosamond and Rogers Dry Lakes. The Amargosa and Anaverde Creeks, Big Rock Wash, and Little Rock Wash are not perennial streams. Surface flows occur only during occasional storms. Sheet wash is common over flat areas; new water ways and channels are made when a storm is unusually heavy. Water ponds are found in winter, but dry up in summer due to evaporation. Lake Palmdale and the Little Rock Reservoir serve as runoff catchment and storage areas to help meet local water needs. They provide recreational opportunities to the public as well. Surface waters in these areas serve as biological habitats, recreational resources, and flood hazard mitigation.

Localized depressions are present in Palmdale. Lake Palmdale is considered a large sag pond but has been lined to prevent infiltration. It now serves as a reservoir for the Palmdale Water District. Lake Una is also a closed depression, just east of Lake Palmdale. There is a potential for the resurrection of a perched water table east of Lake Palmdale, along the sag area of the San Andreas Fault. The area was a series of springs and marshes in the early 1900s. As residential development of Palmdale expands toward the eastern sag areas, it is anticipated that a subsurface recharge of perched groundwater will develop.

A number of natural springs exist along the San Andreas Rift zone. The groundwater on the upper slope runs against bedrock which acts as a dam, forcing the water upward. Overflow then reaches the surface to form springs. Riparian vegetation and a water source for wildlife is often present in spring areas.

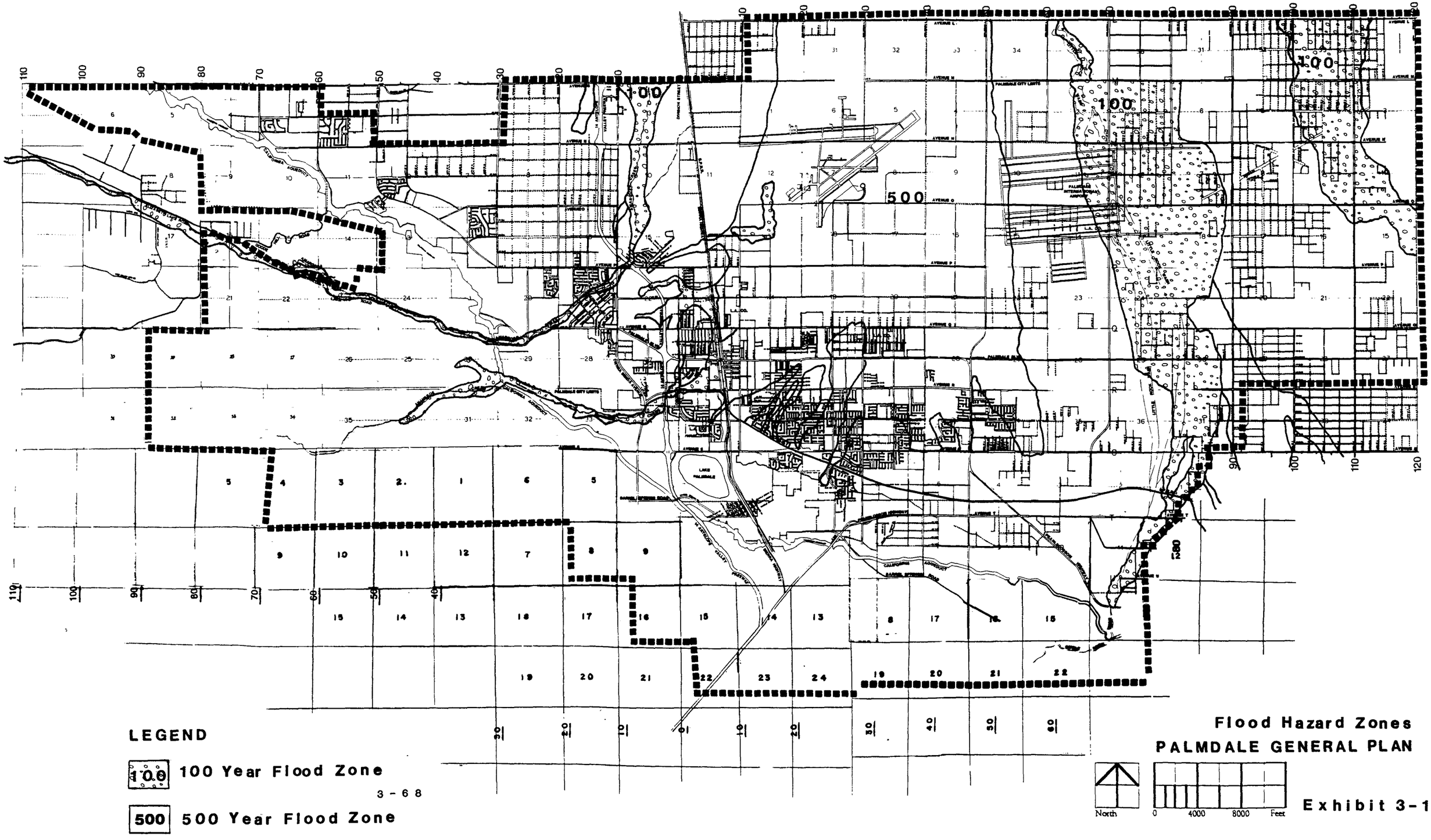
3.3.3 FLOOD HAZARDS

Rainfall in the Antelope Valley is relatively sparse due to its location on the leeward side of the Sierra Pelona and San Gabriel Mountains. The average annual rainfall is 5.15 inches in Palmdale and 19 inches in the mountains. However, the runoff from the upper watersheds that reaches the City generally does not result in flash floods. For this reason, flash floods do not pose a danger to the Planning Area.

Although no major flooding is expected in the Planning Area, intermittent flooding and sheetwashing occur along major drainages and adjoining areas. As shown in Exhibit 3-15, areas with flood hazards are the natural drainage channels of Amargosa Creek, Anaverde Creek, Little Rock Wash, and Big Rock Wash. Flat plains and natural depressions are also subject to possible flooding. Occasionally, street flooding in Palmdale occurs due to the runoff velocity from the steep slopes of the upper watersheds. The high velocity does not allow substantial ground seepage and causes intermittent floods in the flat lands. The velocity also makes the runoff erosive and hazardous. Areas with impervious soils or development surfaces increase runoff volume in drainage channels and recharge sites.

Both earthquake faults and developments reduce the total ground absorption area. Earthquake faults include bedrock features which create barriers to subsurface percolation, thus increasing the velocity and erosive capacity of stormwater runoff on hillsides. Development also creates impermeable surfaces (structures, pavement, streets) which limit water percolation. Storm runoff is augmented by nuisance water flows from development which result in street flooding. Moreover, developed areas generate irrigation water runoff from landscape watering which may flow into nearby undeveloped areas and street gutters. Typical urban runoff contaminants (i.e., oil and grease, surfactants, heavy metals, solvents, pesticides, nutrients, and fecal coliform bacteria from horses and pets) can be expected within runoff reaching the local storm drain system.

The amount and frequency of rain is variable, and although flood water may be diverted, the lack of a completed regional drainage system will continue to result in local flooding problems. The City has recently adopted a Master Drainage Plan. It will take approximately 20 years to complete construction of the entire system. The Los Angeles County Department of Public Works has completed the Antelope Valley Comprehensive Plan of Flood Control and Water Conservation (June 1987) which is currently being implemented



Flood Hazard Zones
PALMDALE GENERAL PLAN

Exhibit 3-1

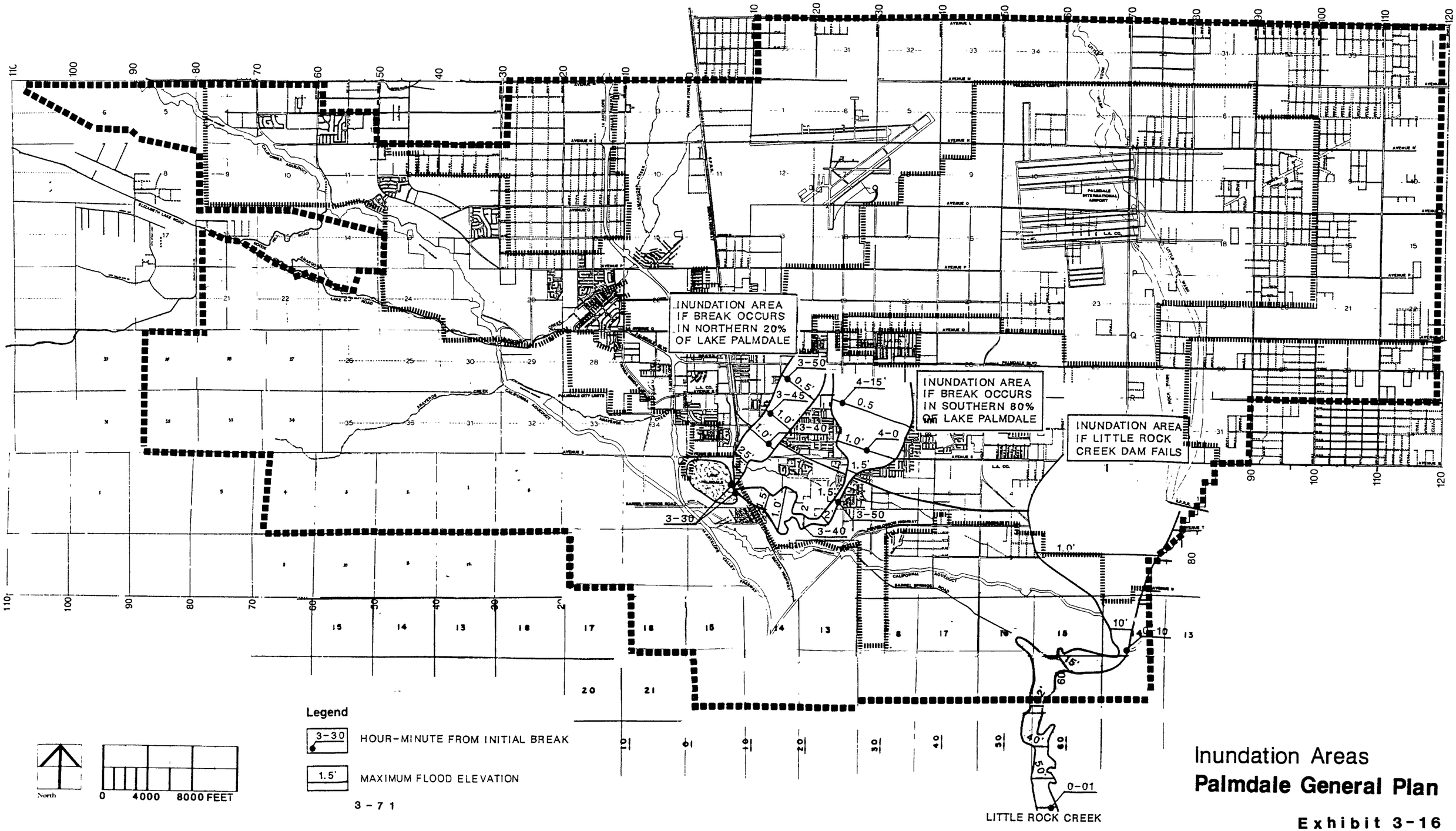
in the unincorporated portions of the Antelope Valley. Both plans address storm water runoff from higher slopes and those resulting from existing and future development.

The California Aqueduct traverses the southwestern portion of the Planning Area at the lower edge of the foothills. It is elevated above the valley floor in several areas. Stormwater runoff from the foothills to the west and south of the aqueduct passes under the aqueduct in box culverts at numerous locations and into channel pool locations or drainages below the aqueduct. Severe post-storm floods have caused extensive erosion and washout below these culverts. Careful engineering is required in conjunction with planned development adjacent to the aqueduct. This is needed to ensure that upslope runoff is not increased to exceed the capacity of the culverts under the aqueduct, thus resulting in undermining of the aqueduct structure and causing possible failure of the aqueduct structure. Overtopping of the sides of the facility is also a possibility. This would allow storm water runoff to enter the flow in the aqueduct. Drainage below the aqueduct must be designed to accommodate aqueduct storm water runoff from slopes above the aqueduct and protect structures from storm flows.

Earthquakes could cause the rupture of the Palmdale and Little Rock Dams, resulting in area flooding as shown in Exhibit 3-16. The exhibit shows affected areas and their maximum flood level at different periods after rupture. Flood waters could be as deep as 50 feet immediately below the Little Rock Dam after rupture. Failure of the Little Rock Dam would result in the inundation of a 300-foot-wide area for 0.25 mile north of the dam. Along this length, the water depth would vary from 50 to 15 feet. Ten minutes after failure, the water would turn eastward for 800 feet to Avenue U where the depth would be reduced to 10 feet. Flowing north again, the water would dissipate so that the depth is no longer a risk to developments.

Flooding due to rupture of the Lake Palmdale Dam will vary depending on the location of the damage to the dam. If the break occurs in the northern 20 percent of the dam, the potential inundation area would be approximately 1 square mile northeast of the dam. If the southern portion of the dam breaks, flooding would be over a wider area east and northeast of the dam. Aside from dam failure and subsequent flooding, a seismic water wave could occur at the Palmdale Reservoir which would run up the slope and overtop the dam. The design report for the dam considers a reflection of the wave on return unlikely. Also, wave volume above the dam would not be substantial (approximately 1 acre-foot), and would not result in damaging floods. Flooding over the dam would not cause any damage to the dam as the existing rockfall was designed to withstand it.

In the event of a large magnitude earthquake on the San Andreas Fault, much of the California Aqueduct is likely to fail. The East Branch of the aqueduct is highly vulnerable to widespread damage because it closely parallels the San Andreas Fault for over 100 kilometers. Moreover, the East Branch crosses the fault at two locations near Palmdale (Leona Siphon and Barrel Springs). The Department of Water Resources (DWR) has installed flood control gates along the aqueduct to control flooding due to structural failure. By closing the gates upstream, the section of the aqueduct in the Planning Area will be isolated and will not receive water. Various factors affect the size and extent of flooding including structural failure of the aqueduct and aqueduct pools while the aqueduct is operating at full capacity, adjacent pools outside the planning area which may be draining, and emergency power failure so that the aqueduct gates do not close fast enough or not at all. Exhibit 3-17 shows direction of flows from possible rupture of the aqueduct.

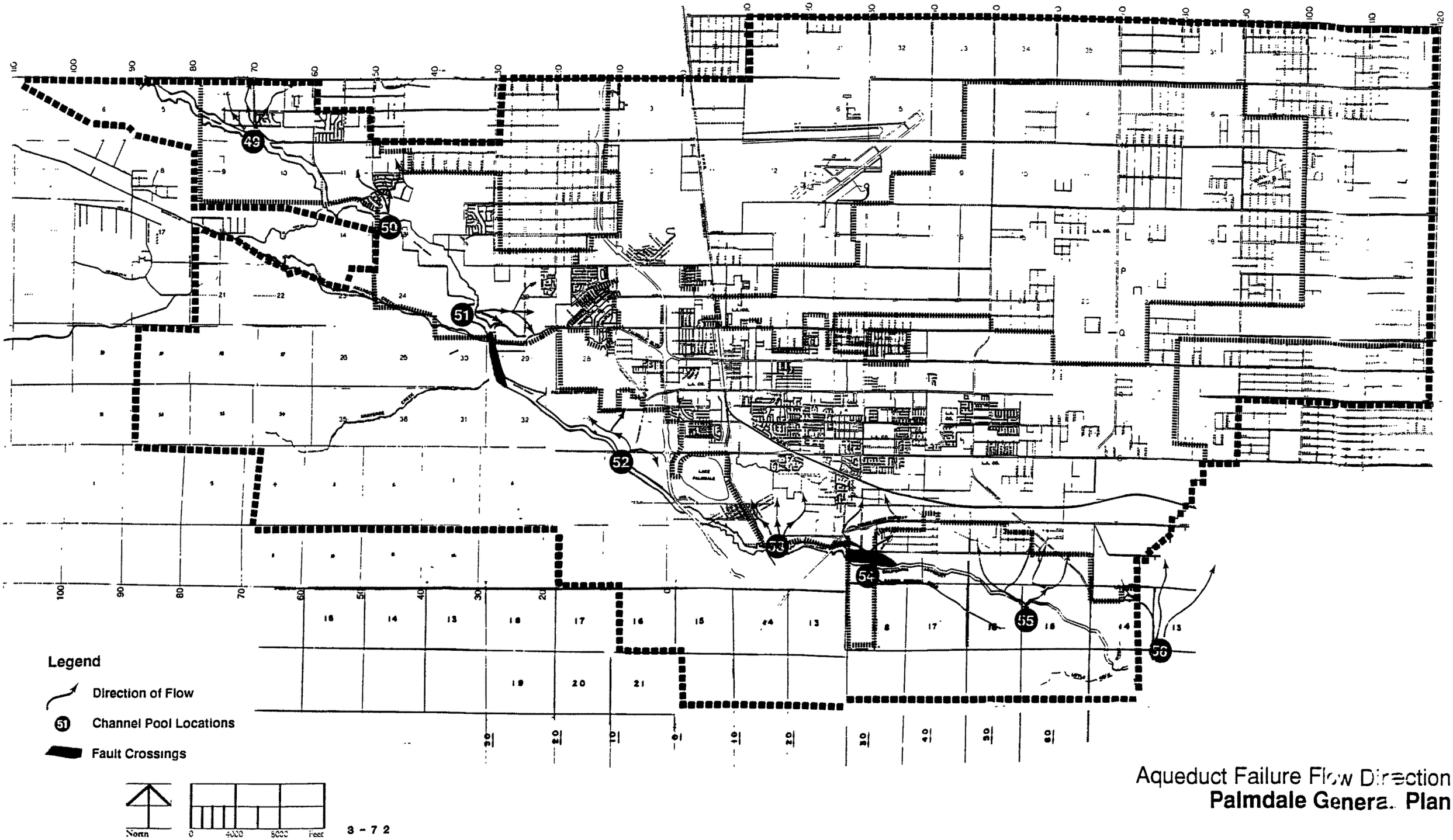


3 - 7 1

Inundation Areas

Palmdale General Plan

Exhibit 3-16



Aqueduct Failure Flow Direction
Palmdale General Plan

Exhibit 3-17

3.4 BIOLOGICAL RESOURCES

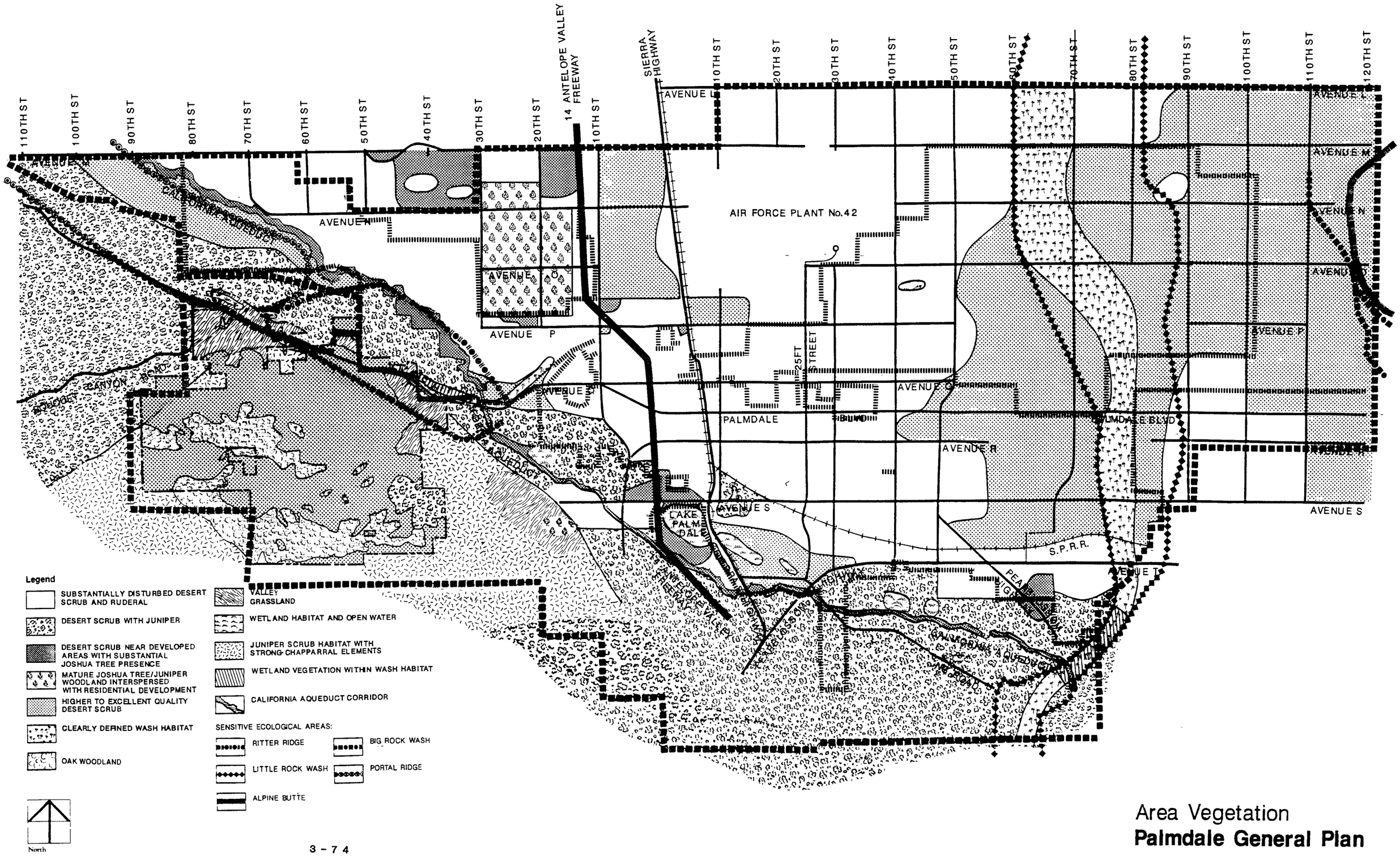
The biotic composition of the Planning Area is described herein from information compiled through field reconnaissance, supplemented by existing documentation of biological resources within the geographic vicinity. The area was surveyed by vehicle and on foot by Michael Brandman Associates (MBA).

The size of the area included in this study permitted only a general survey of plant communities and wildlife habitat conditions. All portions of the study area were visually examined. In general, plant communities, as shown in Exhibit 3-18, were mapped at a level of detail that is sensitive to important ecological transitions, but does not indicate small sections of habitat that are ecologically intact but isolated within another habitat zone.

More detailed mapping was prepared for wetland or riparian (stream-associated) areas and Joshua tree (Yucca brevifolia) stands due to their local and regional ecological sensitivities. Special attention was also paid to those areas with the potential for supporting sensitive species.

The Planning Area is located within the westernmost portion of the Mojave Desert at the southern end of the Antelope Valley. The Planning Area is bordered to the south and southwest by the San Gabriel and Sierra Pelona Mountain ranges. The southern third of the study area occupies both gentle and steep slopes at the base of these ranges, thus the biological composition of the whole study area represents a transition zone from mountain plant communities to communities more commonly occurring in desert environments.

The watershed of these ranges drain into four main water courses that occur within the Planning Area. Little Rock Wash, flowing out of the San Gabriels into the eastern third of the Planning Area, is the largest water course. The historic floodplains of this wash, coursing south to north through the Planning Area, encompass a substantially wide zone, mostly through undeveloped areas. Big Rock Wash collects run-off from the Big Rock and Pallett Creeks in the San Gabriel Mountains. It flows north from Holcomb Ridge, toward Alpine, Lovejoy, and Piute Buttes into Rogers Dry Lake near Avenue E. Anaverde and Amargosa Creeks flow northeasterly through the Planning Area from the watershed in the Sierra Pelona Range and Ritter Ridge.



Area Vegetation
Palmdale General Plan

Exhibit 3-18

These water courses generally do not have surface water present except for the period immediately following significant rainfall. In addition to these riparian systems, an extensive wetland system parallels the San Andreas Fault rift zone.

The climate of the southwestern zone of the Antelope Valley is characteristic of the southern Mojave Desert. A series of intervening ranges block cool, moist coastal air, creating a climate with hot, dry summers and cold winters with less than 10 inches of annual rainfall. However, precipitation from the bordering mountain ranges contributes to the local groundwater supply.

Past and present uses and activities, such as grazing, flood control, dumping, construction, agriculture, and off-road vehicle activity have contributed to the ecological degradation of the study area. Historically, the entire region was heavily grazed. Abandoned agricultural fields comprise a large percentage of remaining open space areas. Flood control infrastructure also effectively minimizes natural periodic flooding that is an integral element in the ecological maintenance of desert wash habitats. The presence of the California Aqueduct and rail lines in the southern portion of the Planning Area and the grid of surface streets, along with the Antelope Valley Freeway, throughout the Planning Area, also effectively fragment much of the existing natural open space. Moderately disturbed and mostly undeveloped habitat borders the majority of the Planning Area except to the north.

3.4.1 VEGETATION

Vegetation in the study area consists of highly diverse examples of six plant communities: desert scrub; juniper/Joshua tree woodland; ruderal; chaparral; oak woodland; and riparian. Plant species for the Ritter Ranch area are derived from earlier surveys conducted by Ecological Research Services (ERS 1989). A survey conducted during the early spring would likely disclose 10 to 20 percent greater diversity due to presence of spring-flowering herbaceous species. A list of all plant species recorded during the survey is provided in Table 1 of Appendix F.

The floral composition of each plant community in the study area is described below. The distribution of each community is shown in Exhibit 3-18. An extensive intermixing of the plant community types occurs throughout most of the study area; boundaries between communities shown on the exhibit are approximate.

Desert Scrub

The desert scrub vegetation association typically comprises an assemblage of evergreen and deciduous shrubs. It occupies gentle to steep slopes with well-drained soils ranging from gravelly to sandy in texture. Due to the arid conditions, shrubs are often widely spaced, with sparse annual grasses and rapidly growing herbaceous species in the understory. Prior to the introduction of domestic grazing animals, these openings supported native perennial grasses in greater abundance than are found today.

Plant species composition of the desert scrub association varies according to changing physical conditions, such as temperature extremes and duration, rainfall, flooding, and alkalinity (Barbour 1977). Taller shrubs and trees occur on the gentle slopes of desert ranges and in association with hydrologically active washes. The composition and density of herbaceous species is greatly dependent on the degree and duration of disturbance, especially from grazing.

The desert scrub association (or community) within the study area has been mapped on Exhibit 3-18 into four categories: (1) disturbed desert scrub and developed areas; (2) high quality desert scrub; (3) high quality desert scrub with junipers; and (4) high quality desert scrub with Joshua trees.

Disturbed desert scrub supports a low diversity and low density assemblage of small native shrubs with a higher number of ruderal (weedy) species. The dominant shrub species in the disturbed desert scrub of the study site are rabbit brush (Chrysothamnus nauseosus) and, in more alkaline soils, salt bush (Atriplex sp.). Such poorly developed desert scrub often exists where historically disturbed areas are returning to a more natural state. Very marginal desert scrub in the Planning Area may support some remnant Joshua trees; however, such trees are generally small and of moderate health. Disturbed desert scrub or ruderal vegetation occupies much of the flat area to the west, which was previously cleared for agriculture due to a higher historical concentration of land use in that area.

Areas mapped as higher quality desert scrub consist of a plant assemblage composed of at least one additional major shrub component other than rabbit brush or saltbush. These areas have a consistently higher density of shrub cover and show no signs of past mechanical soil disturbance. Generally, the more intact sections of high-quality desert scrub vegetation contain a larger diversity of shrub species than the areas mapped as disturbed scrub, with scattered stands of healthy Joshua trees. To the south, at the foot of the San Gabriel Mountains, small junipers are a frequent element in the desert scrub. An indication of the areas to the east which were not exposed to disturbance is the presence and frequency of perennial bunch grass. The two common species on the study site are desert needle grass (Stipa speciosa) and rice grass (Oryzopsis hymenoides).

Areas of even higher quality desert scrub occur east of 30th Street East (Exhibit 3-18) and support a higher diversity of shrub species. These areas are more often integrated with juniper/Joshua tree woodland habitats and support high densities of scattered Joshua trees of significant size. Rabbitbrush is the dominant shrub species with high densities of California ephedra (Ephedra californica), boxthorne (Lycium spp.), saltbush, and Great Basin sagebrush (Artemisia tridentata). The overall coverage of herbaceous annuals, primarily composed of filaree (Erodium spp.) and downey chess (Bromus tectorum), is higher than in disturbed desert scrub, and desert needle grass is common. The diversity of shrub species increases southward at the origin of mountain slopes with the scrub community, including substantial amounts of juniper, Great Basin sagebrush, pine goldenbush (Ericameria pinifolia), long-leaved goldenbush (Haploppappus longifolius), and California buckwheat (Eriogonum fasciculatum).

The majority of ecologically important desert scrub occurs toward the northeastern corner of the Planning Area. Within this area there are frequent transitions of dominant shrub types. In addition, several distinct subassociations occur within the high quality desert scrub areas such as creosote bush scrub and alkali sink scrub near Barrel Springs. These sub-associations are often considered to be distinct community types. However, for this study, they have been included within the desert scrub designation.

Creosote bush scrub, a type of high quality desert scrub, is the dominant sub-association of the desert scrub and is found in areas east of 90th Street East. This plant community is dominated by creosote bush (Larrea tridentata) and is a common association found on well-drained slopes, fans, and valleys of the desert interior. Burro bush (Ambrosia dumosa), a characteristic shrub species of creosote bush scrub, is also prevalent east of

90th Street East. The creosote bush scrub in the Planning Area occurs in soil substrates characterized by white, fine sands with sheet sand formations, the arrangements of which are determined by the location of mature shrubs. Much of the creosote scrub contain substantial amounts of rice grass and a diverse assemblage of other shrubs and herbaceous species, usually including rabbit brush.

Moving westward, the desert scrub community progressively deteriorates. The major shrub components are dense stands of rabbitbrush and saltbush. Additionally, ricegrass remains common and very large individual specimens of Joshua trees are present along the channel area of Little Rock Wash. Saltbush-dominated communities or alkali sink scrub also occur near Little Rock Wash. The dominant presence of saltbush in both disturbed and less disturbed desert scrub north of Avenue O may indicate alkaline soils (see Exhibit 3-18).

Juniper and Joshua Tree Woodland

Juniper/Joshua tree woodland is characterized by the dominance or strong presence of California juniper and Joshua trees. The community occurs on well drained slopes and mesas above 2,500 feet. Due to its woodland nature, with the dominant species often exceeding 10 to 15 feet in height, a diverse flora and fauna often accompany this vegetation type. Juniper-dominated woodlands are found in higher elevation areas and steeper south-facing slopes. Joshua trees predominate on north-facing slopes and on lower plain areas. Some north-facing slopes support a mix of junipers and Joshua trees. The area southwest of Barrel Springs Road has a large juniper component mixed with chaparral elements.

Accompanying shrub species in the Planning Area vary greatly due to the range of soil conditions and moisture regimes occurring between the valley lowlands and the slopes just north of and south Pearblossom Highway (SR-14). Higher areas to the south are dominated principally by California juniper and support a high diversity of shrub species, including California buckwheat, Great Basin sagebrush, antelope bush (Purshia gladulosa), and brittlebush (Encelia farinosa). Areas north of Pearblossom Highway support progressively greater concentrations of Joshua trees.

Species co-occurring with the community in the northern two-thirds of the Planning Area include rabbitbrush, saltbush, California ephedra, winter fat (Eurotia lanata), boxthorne, and Great Basin sagebrush. Much of the

habitat with a relatively greater presence of Joshua trees contains significant amounts of desert needle grass. The combined occurrence of perennial grass and Joshua trees indicates a low level of past disturbance. The best example of mature juniper/Joshua tree woodland occurs between 30th Street West and 15th Street West north of Avenue O (see Exhibit 3-18). Another patch of juniper and Joshua tree woodland habitat is found south of Avenue S on Tierra Subida Road adjacent to a new housing development. Despite a high density of residential development, these areas are representative of the plant community in excellent health.

Much of the historically occurring Joshua tree woodland in northern Los Angeles County is rapidly being lost or degraded by development. As a result, Joshua trees have become an issue of local importance in areas with accelerated development. The species is sensitive to the level of disturbance from adjoining developed areas. Aside from direct removal, Joshua trees are highly susceptible to damage from off-road vehicles, equestrian uses, and foot traffic, as evidenced by the poor health of the small isolated pockets of Joshua trees located adjacent to the central, developed core of Palmdale. The large Joshua trees in the Planning Area occur as lone individuals where Avenue N and 75th Street East intersect near Little Rock Wash.

Ruderal

Ruderal communities are composed of weedy species and typically occur where conditions such as compacted or loose soils, high temperatures, intense light, and low moisture, offer a competitive advantage for weedy species.

The presence of areas dominated by ruderal plant species in the study area reflect past and present land uses ranging from abandoned agricultural fields to overgrazed desert scrub. The western half of the study area contains large, shrubless open spaces composed almost entirely of introduced annual brome (Bromus spp.), grasses, and filaree. Also in this western portion are many acres of apparently abandoned almond orchards with a dense coverage of non-native brome grasses and mustard (Brassica spp.). Eastward, from approximately 20th Street West, ruderal communities are found in small open spaces within and immediately around the developed core of Palmdale. In this area, the ruderal communities largely consist of extremely degraded desert scrub, with a thin cover of rabbit brush and Russian thistle (Salsola iberica), and a predominance of weedy annuals such as filaree and Mediterranean schismus (Schismus barbatus).

Though ruderal areas do not support appreciable numbers of native plant species or provide a structural diversity of vegetation useful as cover or nesting areas to wildlife, they do support plant species which produce large quantities of seeds and serve as a food resource for some wildlife species.

Chaparral

Chaparral plant communities occur in dry, hot, and exposed areas where soils are thin and rocky (see Exhibit 3-18). These plant communities are relatively common throughout montane Southern California. They are dominated by woody, sclerophylous (thick-leaved) shrubs, typically from 4 to 8 feet in height, that are adapted to conserving moisture. Species composition varies widely and is primarily dependent on soil type and available moisture. Dominant chaparral shrub species are resilient to fire impacts by their ability to resprout from underground burls and roots and/or by the possession of fire-respondent seeds.

Chaparral habitat occurs on the site west and south of the California Aqueduct, south and west of Barrel Springs Road, and south of Elizabeth Lake Road. In these areas, chaparral integrates with a juniper-dominated desert scrub community, forming an assemblage of both large shrubs and small herbaceous annuals that are unique to the Planning Area.

The chaparral shrub species occurring in the Planning Area include manzanita (Arctostaphylos sp.), scrub oak (Quercus dumosa), Spanish bayonet (Yucca whipplei), redberry (Rhamnus crocea), Mexican elderberry (Sambucus mexicana), and buckwheat (Eriogonum spp). The chaparral community does not appear to have burned recently and supports a large population of native perennial big squirrel tail (Sitantion jubatum) and woolly gilia (Eriastrum densifolium), a native subshrub.

Oak Woodlands

The oak woodland communities are found in the Ritter Ranch area in the southwest portion of the study area. Oaks require some moisture in the soil and exist in the study area on the higher north-facing slopes of Mint Peak and Mt. McDill at elevations above 4,800 feet. The dominant oak species in these woodlands include canyon live oak (Quercus chrysolepis), desert scrub oak (Quercus turbinella), and blue oak (Quercus douglasii).

Another tree species, big-leaf maple (Acer macrophyllum), is also found in these woodlands. Understory plants are typical of drier chaparral habitat and include California coffeeberry (Rhamnus californica), desert ceanothus (Ceanothus gregii), Great Basin sagebrush, chamise, and holly-leaved cherry (Prunus ilicifolia).

Oak woodlands are an important habitat for wildlife. They provide nesting for a variety of birds (raptors, woodpeckers, and a number of songbirds) and food and cover for mammals. In addition, these habitats are rapidly disappearing in the state and are considered valuable, not only as wildlife habitat, but also for their aesthetic value.

Riparian

Riparian plant communities are relatively rare in Southern California. They occur in and around drainages and low areas that experience at least some degree of seasonal surface water or in areas with a high groundwater table. The presence of water provides habitat for a large variety of trees, shrubs and herbs. The major types of riparian plant communities occurring in the Planning Area include desert alluvial wash, willow/cottonwood woodland, and small areas of freshwater marsh.

Desert alluvial wash is characterized by species tolerant of periodic flooding, resulting in a structurally diverse community that consists of scoured areas supporting little vegetation and more densely-vegetated riparian woodlands spared from recent flooding. The riparian woodland assemblage requires year-round ground or surface water and supports large tree species, such as California sycamores (Plantanus racemosa), Fremont's cottonwood (Populus fremonti), and willows (Salix spp.). An excellent example of this association occurs at the intersection of Pearblossom Highway and Little Rock Wash.

Additional species present at Little Rock Wash include scale-broom (Lepidospartum squamatum), mulefat (Baccharis glutinosa), California buckwheat, antelope bush, and Great Basin sagebrush. The more recently scoured portion of the wash supports sparse vegetation, consisting mainly of scattered mulefat and small individuals of scale-broom and California buckwheat. This indicates that some degree of flooding apparently still occurs, although the frequency of flooding events has undoubtedly been modified by Little Rock Dam

several miles upstream. Where Avenue T crosses the wash, mechanical disturbance, primarily from aggregate mining activities, has resulted in the degradation of desert alluvial wash habitat.

Smaller washes within the Planning Area, such as the terminus of Amargosa and Anaverde Creeks, do not support expected wash vegetation. A similar absence of wash-associated plant species is evident in Little Rock Wash, approximately north of Avenue S, probably as result of flood control improvements upstream.

Willow and cottonwood woodlands are characterized by dense stands of trees and shrubs with varying dominance between the two species. Willows are more moisture-dependent than cottonwoods and occur where there is year-round moisture at or near the surface. Generally, dense willow stands support little understory vegetation. The taller, more open nature of the canopies of Fremont's cottonwoods allows for an understory of shrubs and herbaceous plants.

In the Planning Area, the major occurrence of the willow/cottonwood woodland community originates along the Palmdale Ditch and parallel to Barrel Springs Road from 40th Street East to 42nd Street East and beyond. The flow of the Palmdale Ditch is channelized underground to Lake Palmdale. However, where the drainage resurfaces east of Lake Palmdale, the community continues. Willows rim the shores of Lake Palmdale and, in addition, much of the channel of Amargosa Creek west of the California Aqueduct supports substantial areas of willow/cottonwood woodland.

Freshwater marsh is characterized by the presence of standing or slowly-moving surface water that supports a range of moisture-dependent herbaceous plant species. Within this area, freshwater marsh areas are usually found in conjunction with willow/cottonwood habitats.

The dominant species of the freshwater marsh in the Planning Area is cattail (Typha spp.), with several small areas containing an association of willow and cattail. Other areas such as small fenced reservoirs containing willows, alkali marsh, and small groves of Fremont's cottonwoods.

3.4.2 WILDLIFE

The Planning Area is expected to support many of the wildlife species dependent upon the low-to mid-elevation desert scrub and desert riparian plant communities throughout the Mojave Desert. All vertebrates observed or expected to occur regularly in the vicinity of the Planning Area are listed in Table 2 of Appendix F.

Amphibians are expected to be seasonally abundant in the cottonwood/willow woodland and freshwater marsh habitats of the Planning Area. Expected residents include the western toad (Bufo boreas), red-spotted toad (Bufo punctatus), and Pacific treefrog (Hyla regilla).

Reptiles expected to commonly occur in the Planning Area include the gopher snake (Pituophis melanoleucus), the side-blotched lizard (Uta stansburiana), desert horned lizard (Phrynosoma platyrhinos), western whiptail (Cnemiodophorus tigris), and Mojave rattlesnake (Crotalus scutulatus).

Small mammals expected to occur in the range of habitats include the western harvest mouse (Reithrodontomhys megalotis), desert woodrat (Neotoma lepida), desert cottontail (Sylviagus audubonii), Merriam's chipmunk (Eutamias merriami), little pocket mouse (Perognathus longimembris), several other species of mice (Peromyscus spp.), antelope ground squirrel (Ammospermophilus leucurus), and the California ground squirrel (Spermophilus beecheyi). Larger mammals expected to occur include the black-tailed jack rabbit (Lepus californicus) and coyote (Canis latrans). In addition, the mountain lion (Felis concolor) California black bear (Ursus americanus), and mule deer (Odocoileus hemionus) may be expected in the southern mountainous portions of the Planning Area.

A number of bird species are expected to reside or forage throughout the Planning Area, including the house finch (Carpodacus mexicanus), mourning dove (Zenaida macroura), greater roadrunner (Geococcyx californianus), common flicker (Colaptes auratus), and the common raven (Corvus corax). Also expected in the desert scrub area are the black-throated sparrow (Amphispiza bilineata) and raptors (birds of prey), including the red-tailed hawk (Buteo jamaicensis), prairie falcon (Falco mexicanus), and American kestrel (Falco sparverius). Oak woodlands may support Nuttall's woodpecker (Picoides nuttallii), western wood-peewee (Contopus sordidus), scrub jay (Aphelocoma coerulescens), and Bewick's wren (Thryomanes bewickii).

Sensitive Biological Resources

Discussed within this section are species potentially present in the study area that have been given special recognition by federal or state resource conservation agencies and organizations to declining, limited, or threatened populations, largely resulting from habitat reduction. Sources used for the determination of sensitive biological resources are as follows:

- Plants--U.S. Fish and Wildlife Service (USFWS 1986), California Department of Fish and Game (CDFG 1984), California Natural Diversity Data Base (CNDDB 1987), and California Native Plant Society (CNPS) (Smith and York 1984).
- Wildlife--USFWS (1987), CDFG (1980, 1983), CNDDB (1988), and Remsen (1978).

No species of plant or wildlife designated as rare, threatened, or endangered by federal or state agencies was observed during the survey of the study area. However, two plant species and three animal species of concern were observed during the survey. Additionally, several plant and animal species afforded some level of federal, state, or local protection are potential inhabitants of or visitors to the local vicinity. A summary of sensitive species known to occur and those with the potential to occur are summarized below:

Peirson's morning glory (Calystegia peirsonii) is a USFWS Category 2 candidate and has been recorded in the project vicinity (CNDDB 1987). Category 2 includes those species for which available information indicates that, due to the decline of the suspected species, listing may be warranted, but the data are as yet insufficient. Peirson's morning glory occurs on dry slopes in desert scrub habitats, such as the slopes of Ritter Ridge, City Ranch, and in the Ritter Ranch area (Munz 1974).

Desert cymopterus (Cymopterus deserticola) is a USFWS Category 2 candidate. This plant is a perennial species that was not observed on the site during the cursory field survey.

Joshua trees in unincorporated areas are protected by the Los Angeles County Joshua Tree Ordinance. Under this ordinance, Joshua trees within a project area must be either avoided and unharmed, or transplanted to a suitable area where they will not be threatened by the project. The City of Palmdale has also recently adopted

a native desert vegetation ordinance; any projects with Joshua trees are required to submit a Native Vegetation Preservation Plan that identifies their location and recommends suitable mitigation measures. Joshua trees were observed throughout the Planning Area.

The alkali mariposa lily (Calochortus striatus) is a USFWS Category 2 candidate. The range of this annual plant species within the Planning Area is limited to relatively undisturbed alkali meadows. Suitable habitat for this species occurs near Barrel Springs.

The Mohave spineflower (Chorizanthe spinosa) is listed by the California Native Plant Society as a "list 4" species. This category refers to plants that apparently have a limited distribution in California and have been put on a "watch list." This annual plant is known to occur in the vicinity of Lancaster in dry, sandy-gravelly washes and on slopes between 2,500 to 3,500 feet in elevation. It is limited to creosote bush scrub habitats and blooms from April to July, forming a prostrate mat 5 to 15 inches in diameter. Suitable habitat for this species occurs in creosote bush scrub habitats in the Planning Area.

The short-joint beaver-tail cactus (Opuntia basilaris var. brachyclada) is a small cactus species that forms compact clumps, 1-4 joints high. It is usually deep green, and may have a red tinge. It ranges from the Upper Sonoran and Arid climatic transition zones and can be found on the desert slopes of the San Bernardino and San Gabriel mountains. This species is listed as a federal Category 2 candidate species. It is known to occur at the City Ranch South project site and may occur throughout the Planning Area.

The desert tortoise (Gopherus agassizi) is a federally-listed endangered species. The slow-moving species spends the winter in burrows. Suitable habitat is undoubtedly present in the Planning Area. Signs of the desert tortoise (burrows or scrapes) were not detected during the MBA survey; however, they were detected in a recent survey conducted by ERS. The minimal presence of suitable denning conditions, the immediate presence of well-traveled roads through most of the Planning Area, and reduced food resources due to disturbance indicate that desert tortoise populations will be low. Directed surveys will be required to determine the status of the desert tortoise in the area.

Habitat for **the coast horned lizard (Phrynosoma coronatum)** occurs throughout the Planning Area in relatively level areas that support desert scrub, chaparral, juniper woodland, and grassland habitats. It seems to prefer sandy soils but it occurs on clayey hardpan soils as well. The horned lizard chiefly occurs in areas where its primary food source, the harvester ant (Pogonomyrmex spp.), is present. Two subspecies of the coast horned lizard have been identified: the San Diego horned lizard (P. c. blainvillei) and the California horned lizard (P. c. frontale) (Stebbins 1966). The San Diego horned lizard is a federal Category 2 candidate subspecies for listing as threatened or endangered and a CDFG Species of Special Concern. The California horned lizard is listed by the CDFG as a species of special concern (CDFG 1987).

The coast horned lizard has exhibited drastic population declines over the last 100 years. This lizard was collected by the thousands early in this century as a tourist's curio--the lizards were stuffed, mounted, shellacked, and sold in the Los Angeles area for many years (De Lisle et al. 1986; Stebbins 1988). The principal cause of decline in recent years has been loss of habitat to development and urbanization. Horned lizards that are not destroyed by construction equipment are typically killed by dogs and cats, collected by children for pets, and run over by off-road vehicles along trails and dirt roads (De Lisle et al. 1986; Stebbins 1988).

The **silvery legless lizard (Anniella pulchra pulchra)** is a CDFG Species of Special Concern. It is a small, secretive, snake-like lizard that lives and forages in leaf litter, under debris, or in sandy soil (Stebbins 1985). It occurs in a variety of habitats, including sandy washes, coastal scrub habitats, and woodlands, and is expected to occur within the Planning Area. The silvery legless lizard preys on insect larvae, small adult insects, and spiders (CWHRS 1988).

The Le Conte's thrasher (Toxostoma lecontei) is designated by CDFG as an uncommon and declining species. CDFG includes the Le Conte's thrasher on its species of special concern list, indicating that, although the thrasher is not in any immediate danger of local extirpation, experts feel that the species warrants monitoring. The thrasher inhabits sparse desert scrub and Joshua tree woodland throughout the California deserts, especially around small washes and is present within the Planning Area.

The black-shouldered kite (Elanus ceucurus) is a state fully protected species, a designation established prior to adoption of the state and federal endangered species acts that protect the species from harassment or

harm. The kite forages over open grasslands, where it hovers until it locates small mammals or large insects. It nests in a variety of woodland habitats. Winter roosts of up to 100 birds usually occur in trees rooted in marshy ground. Its status as fully protected in California was designated after populations had dropped to very low levels in the early part of this century. The population numbers of this species have increased over the last 20 years, but have leveled off in recent years (Garrett and Dunn 1981). There have been several population fluctuations since the 1970's, and numbers remain below historic levels. It is not know, whether this species nests within the Planning Area, however, the Palmdale area is known to be an important wintering area.

The northern harrier (Circus cyaneus) is a CDFG species of special concern. This bird nests in marsh and valley grassland habitats. Grazing of grasslands, drainage of marshes, and subsequent conversion of nesting habitats to urbanization and agriculture has caused a decline of this species as a breeding bird in California. It is not know, whether the northern harrier nests in the Planning Area, but it is expected that Palmdale is an important wintering area for this species.

Five raptor species also included on CDFG's species of special concern list, third priority category, occasionally use the project vicinity. These are the sharp-shinned hawk (Accipiter striatus), Cooper's hawk (Accipiter cooperii), golden eagle (Aquila chrysaetos), merlin (Falco columbarius), and prairie falcon (Falco mexicanus). The sharp-shinned hawk is not expected to breed in this area. The Cooper's hawk may nest in local woodlands. Both species may use the area for foraging, chiefly in winter. The golden eagle and prairie falcon are wide-ranging species that typically nest on isolated rocky crags. Both species are sparsely distributed and may occasionally forage over the Planning Area.

Additionally, **the burrowing owl (Athene cunicularia)** is included on the CDFG species of special concern list in the second priority category. The burrowing owl may use the lower elevations of the Planning Area for foraging and appropriate nesting habitat is present on the Planning Area in open areas with ground squirrel burrows.

The long-eared owl (Asio otus) is a CDFG species of special concern. It was once abundant throughout California (even considered fairly common in the Los Angeles area) but has declined since the 1940s and continues to decline today. The decrease in numbers is attributable to loss of riparian habitat and to other factors that have not been identified (possibly road kills and human disturbance at nests). This owl is almost strictly nocturnal and very secretive when roosting in coniferous and riparian groves during the day. They prey on rodents and may nest in riparian woodlands and other groves in the Planning Area.

The loggerhead shrike (Lanius ludovicianus) is a federal Category 2 candidate species for listing as threatened or endangered. This bird prefers open habitats with scattered shrubs, trees, posts, fences, or other perches and is known to occur in Joshua tree woodlands. It nests in densely-foliaged trees or shrubs. The loggerhead shrike is known to nest within the Planning Area.

The California horned lark (Eremophila alpestris actia) is a federal Category 2 subspecies for listing as threatened or endangered. It is found in grasslands, dirt fields, and other open habitats in California. The California horned lark is known to nest within the Planning Area, and the wintering flocks in the Planning Area are augmented by visitors migrating from other areas.

The Mohave ground squirrel (Spermophilus mohavensis) is listed by USFWS as a Category 2 candidate (decline of species is suspected; however, insufficient data exist to support a proposed listing) and by CDFG as threatened. The species hibernates from August to March when food is scarce. If present, the species would not have been detected by the January field survey. A recent survey of Ritter Ranch (ERS 1990) failed to reveal Mohave ground squirrels in this area -- it is believed that most of the animals will be found to the north and east. The species' preferred habitat, creosote brush scrub, occurs at the eastern edge of the study area. According to CDFG (1980), the mapped range of the Mojave ground squirrel extends several miles south of Lancaster. The potential for the species' presence in the northern portions of the Planning Area cannot be precluded as a result of the current survey. CDFG requires that a Cumulative Human Impact Evaluation be conducted in areas of potential habitat as part of the CEQA process for any future projects within this area.

The pale big-eared bat (Plecotus townsendii pallescens) is designated by CDFG as a threatened subspecies. The bat frequents scrub deserts and pinyon-juniper woodlands and may occur in the Planning Area.

The American badger (Taxidea taxus) is a CDFG species of special concern. Its decline is attributed to loss of habitat to urbanization and agriculture, hunting, and general persecution (CDFG 1980; Williams 1986). The badger inhabits open areas and feeds on small, ground-dwelling mammals, especially ground squirrels, pocket gophers, and kangaroo rats (Williams 1986; Jameson et al. 1988). Suitable habitat for the badger occurs in the Planning Area. One dead individual was recently found along Elizabeth Lake Road near Ritter Ranch; therefore, this species is known to inhabit the Planning Area.

3.4.3 SENSITIVE ECOLOGICAL AREAS

The County of Los Angeles designated five sensitive ecological areas (SEAs) that lie within the boundaries of the Planning Area. Although no longer entirely under county jurisdiction, these areas still support biologically unique resources.

The **Little Rock Wash** is the largest desert wash of its type in the county. It runs from the San Gabriel Mountains out into the Mojave Desert and contains shadscale scrub, creosote bush scrub, and desert riparian habitats. Diverse and dense vegetation in the wash provides a nesting habitat for a large number of bird species. Also, a variety and number of mammals use the wash for burrowing, denning, and cover. The wash serves as a wildlife migration corridor and a means of seed dispersal for many desert plants. Montane plant and animal species have extended their distribution into the desert through the wash.

Ritter Ridge lies between the Sierra Pelona foothills and the Antelope Valley. It supports vegetation characteristic of unspoiled habitats of the desert and the foothills. It has mixed stands of Joshua trees and California junipers and a rich wildlife community. Vegetation at Ritter Ridge consists of creosote bush scrub with Joshua tree woodland and California junipers on the northern slopes. Higher northern slopes and south-facing slopes support desert chaparral. Ninety-seven vertebrate species are known to inhabit Ritter Ridge, of which 25 species are mammals, 53 are birds, and 19 are reptiles (ERS 1989). Also, migrating birds have used the area as a refuge. This area has recently been annexed to the City of Palmdale and no longer has SEA status, although the biological diversity for which it was designated may still exist.

Portal Ridge is at the southwestern limits of the Mojave Desert near the San Gabriel Mountains and the Tehachapi Foothills, with its eastern end at the western portion of the Planning Area. It contains 10 distinct plant communities including foothill woodlands consisting of blue oak, valley oak, California buckeye, and digger pine woodlands. Southern oak woodland, valley grassland, riparian woodland, and coastal scrub can be found on lower slopes and valleys south of the main ridgeline. Higher slopes and ridgelines are covered with chaparral and yellow pine forest. Pinyon-juniper woodland covers north-facing slopes toward the desert. Joshua tree woodland or sage brush scrub cover the lower desert hillsides.

Big Rock Wash extends from the San Gabriel Mountains to the Mojave Desert and is relatively undisturbed. It contains shadscale scrub, creosote bush scrub, and desert riparian plant communities. Montane species have extended into the wash. Big Rock Wash supports a large variety and number of mammals and bird species and serves as a migration corridor and a means of seed dispersal between the wash and the group of buttes to the north. Only a small portion of Big Rock Wash lies within the Planning Area boundaries.

Alpine Butte is the least disturbed butte in the county. It has Joshua tree woodland, creosote bush scrub, and desert wildflowers. The butte contains both sand and rock habitats which bring together plant and animal species of both localities. Birds of prey use the area for nesting and roosting. Large mammals which forage in adjacent areas use the butte for denning and cover. The Mohave ground squirrel, a state-threatened species, may be present at the butte.

Many biological resources in the Antelope Valley and the desert region are declining due to urbanization. Preservation of these resources are necessary to maintain diversity and stability in the biotic communities of the region.

Vegetation Communities

Vegetation communities within the Planning Area have been mapped with a minimum of detail, designating both the composition and the level of degradation of all areas. Within, for example, the areas designated "higher quality desert scrub," there is tremendous variability. Factors such as the proximity of heavily traveled roads or adjacent natural open space can diminish or enhance the habitat value to wildlife of a parcel. The presence

of several communities located together heightens the per-acre value of open space, because some species of wildlife feed in habitats different than where they reside. Even large adjacent tracts of ruderal fields can enhance adjacent, less disturbed habitat by buffering human presence or providing critical, sparsely vegetated, open space for raptors to forage.

For many more obvious reasons, natural habitat in close proximity to a perennial water source can support several wildlife species. Water sources can be the focal point of an animal's home range. A series of seemingly isolated parcels of natural open space connected by a narrow restricted wash may actually be more beneficial to wildlife than a large isolated parcel surrounded by busy roads and development by allowing animals to move between habitats and, hence, to replenish depleted populations, avoid genetic inbreeding, and reduce the risk that catastrophic events (such as fire or disease) will result in species extinction. A wildlife movement corridor also provides plants with the opportunity to become established in adjacent areas through seed dispersal.

Consolidation of urban growth and creation of an open space network based on known habitat requirements of key species can best enhance existing natural values. Important habitat areas to be managed would include Ritter Ridge and areas south of Pearblossom Highway and Lake Elizabeth Road, the oak woodlands on Ritter Ranch, and the entire system of Little Rock Wash. However, in planning the use of less pristine areas, the above principles can be applied with a reasonable level of additional study.

3.5 NATURAL RESOURCES

This section focuses on issues relating to mineral and open space resources in the City of Palmdale. Both mineral resources and open space are important for the future development of the City in economic, social, and aesthetic terms. The realization that the earth's resources are limited gives rise to the need for conservation and managed development of local resources. Water, soil, and minerals are all valuable, and limited, resources. Their continued use can only be possible with conservation.

3.5.1 MINERALS

Mineral resources are nonrenewable deposits of ore, stone, and earth materials. These materials include precious metals, such as gold and copper, as well as sand, gravel, and other construction aggregates. The presence of mineral deposits in the Planning Area should be considered in land use planning, although commercial production of some of these materials may be doubtful.

Gold, copper, lead, silver, zinc, and manganese deposits are believed to be scattered throughout the San Gabriel Mountains. The largest known resources of titanium in California are also found in the western portion of these mountains. Most mines of these metallic deposits; however, they have long been inactive.

Nonmetallic mineral deposits also occur in the Antelope Valley. These minerals include anorthosite, apatite, asbestos, barite, borates, feldspar, fluorspar, graphite, and mica. Commercially significant quantities of these materials are located in widely segregated portions of the region.

Construction aggregate includes such materials as sand and gravel, crushed rock, limestone, and dolomite. These materials are used primarily in construction and rank second to fuels in economic significance. Aggregate normally provides 80 to 100 percent of the volume in concrete, stucco, fill, and other construction products. Because transportation costs are high for these materials, the availability and proximity of aggregate deposits to construction sites is critical. Construction and aggregate industries rely on local resources for an adequate supply in the region. Sand and gravel deposits are found extensively in floodplains and stream channels located

north of the San Gabriel Mountains in the Little Rock and Big Rock Wash areas. Less important construction materials are scattered throughout the valley.

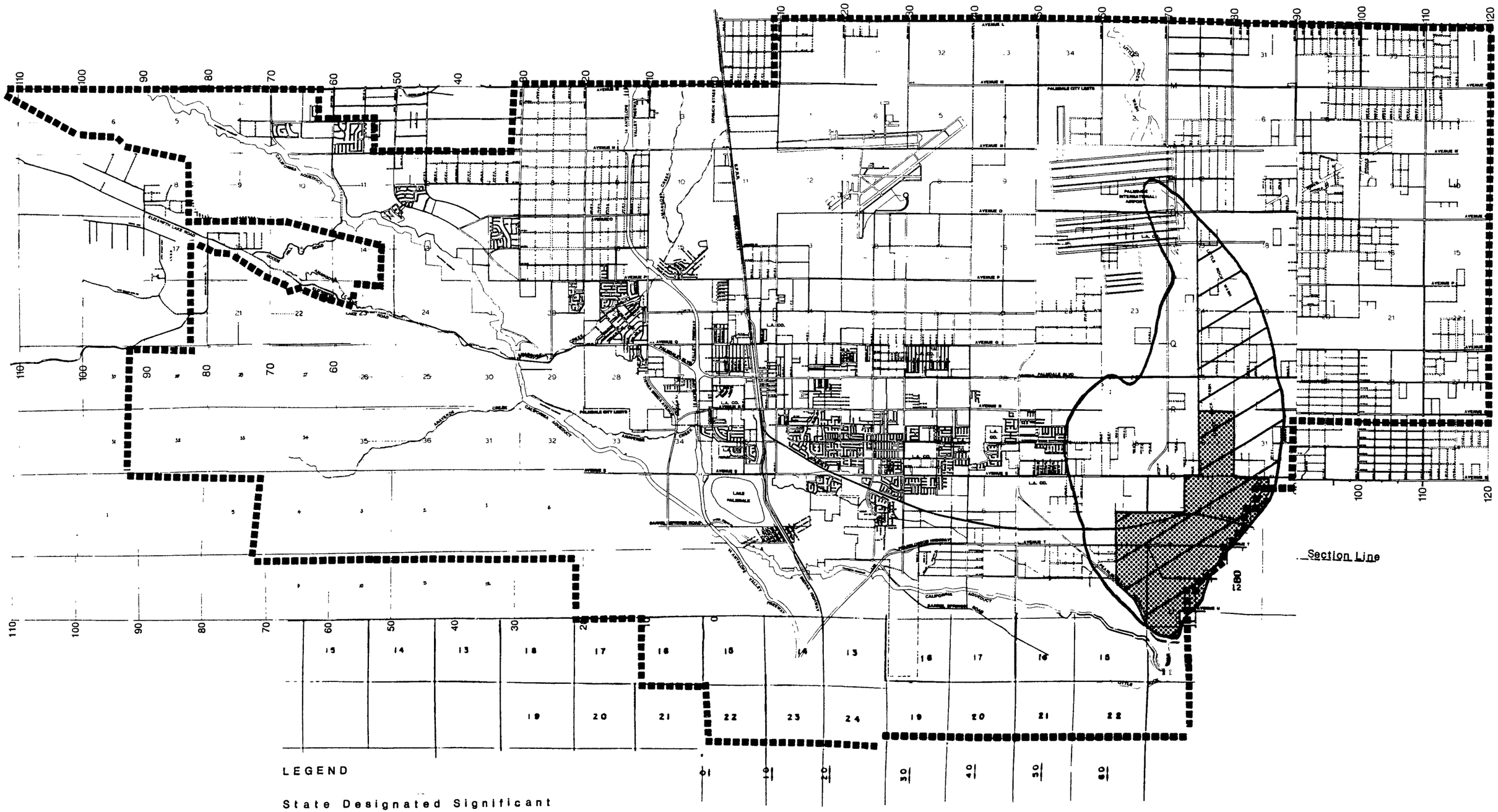
Regional Significance

Two sites within the Palmdale area have been designated by the State Geologist as regionally significant sources of construction aggregate resources. The purpose of this classification is to identify deposits that are potentially available (i.e., existing land uses do not preclude extraction) and are of major importance in satisfying the future needs of the local area. Because Palmdale's Planning Area contains one of the designated resource areas, the City must establish mineral resource management policies that balance the value of the minerals against alternative land uses. In addition to the value of the minerals to the City, policies must also consider the importance of the deposits to the entire market region.

Existing Resources

The Palmdale production-consumption (P-C) region for sand and gravel resources includes 1,103 square miles of territory in the desert areas of Los Angeles County, north of the San Gabriel Mountains. The region contains two areas of regionally significant aggregate resources. Both are located along creekbeds on the east side of the City. One parallels a section of Little Rock Wash within the Palmdale Planning Area, and the other a large portion of Big Rock Wash at the eastern boundary of the Planning Area. These aggregate resource deposits are classified as Mineral Resource Zone-2 (MRZ-2), indicating deposits that meet state criteria for value (over $5 million worth in 1978 dollars) and marketability. Deposits include sand and gravel, clay, limestone, dolomite, and cement. The balance of the Palmdale Planning Area has been designated MRZ-1, containing no resources, or MRZ-3, containing potential but presently unproven resources.

As depicted in Exhibit 3-19, the Little Rock Wash alluvial fan is an area of 12 square miles, primarily containing sand and gravel resources. The area identified by the state runs from the California Aqueduct on the south, Little Rock Wash on the east, to approximately 1 mile north of Avenue L on the north, and near 47th Street



Sand and Gravel Resource Area
Palmdale General Plan

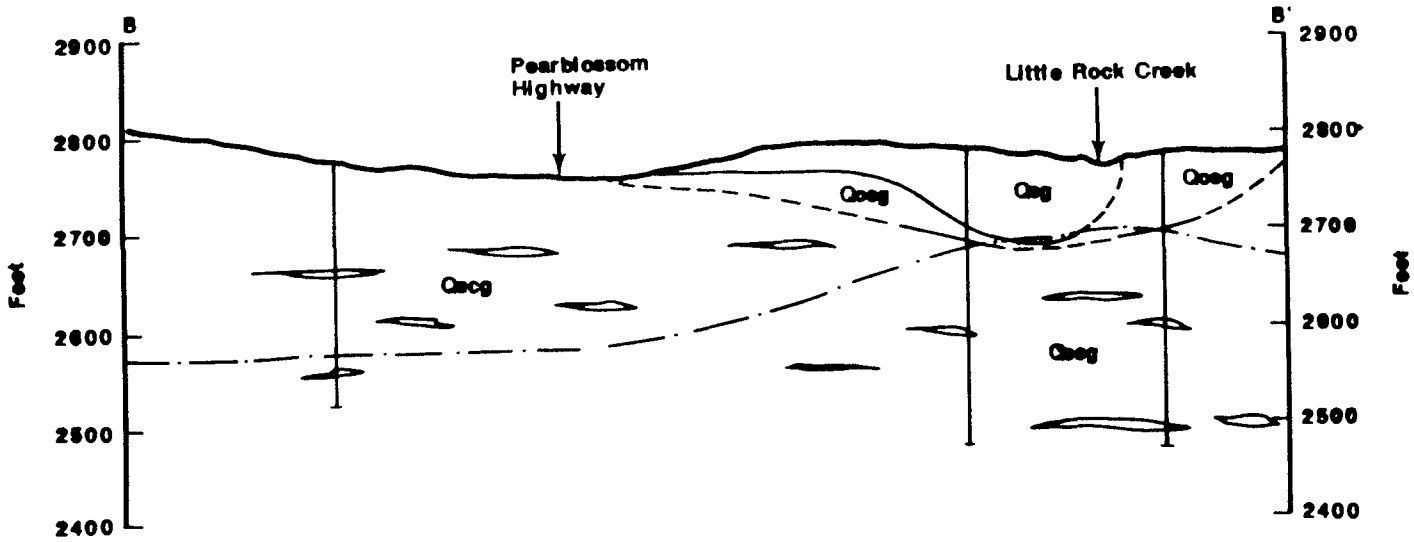
Exhibit 3-19

East and Fort Tejon Road on the west. The area extends west to 47th Street East, and follows Fort Tejon Road south to the Aqueduct. The maximum width of the fan is approximately 3 miles. The quality and depth of the mineral resources varies within the fan. In general, the depth is greatest right along the wash and adjacent to it, as shown in Exhibit 3-20. Resources in this area have been mined to a depth of 85 feet. The westernmost part of the fan consists of shallower deposits, and has been mined to a depth of 55 feet.

The MRZ-2 deposit at Little Rock Wash is composed of an estimated 40 percent pebbly gravel with some cobbles and boulders, and 60 percent fine to coarse sand and silt. The gravel generally consists of granitic rocks with small amounts of other materials. There are also a few clay interbeds within the mineral deposits. The deposits become coarser upstream, toward the foothills of the San Gabriel Mountains. West of the creek, deposits may be layered, with higher quality aggregate in the top 15 to 85 feet. The lower layer, from 10 to 80 feet deep, contains a higher clay content, but may produce acceptable aggregate if it is blended with the higher quality aggregate from above.

The Big Rock Wash fan extends about 8 miles north of the San Gabriel Mountains and contains 26 square miles of aggregate resources. The area defined by the state is bounded by the Aqueduct on the south, 165th Street East on the east, Palmdale Boulevard on the North, and 116th Street East on the west. The deposits at Big Rock Wash are similar mineralogically and lithologically to those found at Little Rock Wash.

Substantial amounts of Portland cement concrete aggregates remain to be developed on the Little Rock Wash and Big Rock Wash fans. Table 3-10 shows the estimated quantity of resources contained in the two MRZ-2 designated areas. The Little Rock Wash fan contains approximately 994 million short tons of mineral deposits, while the Big Rock Wash fan holds an estimated 1,161 million short tons, providing a total of 2,155 million short tons of resources. Mining has occurred in the Little Rock Wash fan for several decades, and there are currently several producers of sand and gravel operating in three sectors of the fan: Calmat Company, State Sand and Gravel, S&W, Jaqua & Sons, Antelope Valley Aggregates, Inc., Tehachapi, Lone Star, Granite, Hi-Grade, and Arrow Rock Materials. Big Rock Wash fan was mined until 1977, although no mining activity is presently ongoing in this location. Mining is currently occurring south of Avenue S and east of 70th Street East.



Legend

- Qsg — Sand and Gravel
- Qseg — Predominantly Sand and Gravel
- Qscg — Predominantly Sand with Lenses of Clay and Gravel
- Contact: Dashed Where Inferred, Queried Where Conjectural
- Water table
- Drill Hole

NOTES:

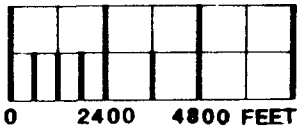
1) Geology taken from: Ponti, D.J..Burke,D.B.,1980, Map Showing Quanternary Geology of the Eastern AntelopeValley and Vicinity, California: U.S. Geology Survey, Open File Report 80-1084

2) Water Table Data Obtained From Well Log Information, Aggregate Plant Information, and Visual Inspection.

3) Refer to Exhibit ER-2 for Location of Section Line.

Source: DMG, SMARA Report No. 6

March 1990
VERTICAL
EXAGGERATION 20 -1



Generalized Geologic Crossection of Littlerock Creek Fan

Palmdale General Plan

Exhibit 3-20

The state has projected a need for 122 million tons of aggregate in the Palmdale region over 50-year period from 1982 to 2032. Current reserves (deposits with valid mining permits owned or controlled by an aggregate company) in the Palmdale region are projected to last until the year 2030. Identified resources in the region equivalent to 2,155 million short tons (including the Big Rock Creek fan) will meet the demand for the growing area, although additional extraction permits may be needed. The Palmdale region may also be an important source of aggregate for other parts of the Los Angeles area that have exhausted their own deposits or have chosen land uses incompatible with mining.

TABLE 3-10

DATA ON RESOURCE AREA AND SECTORS

Sand and Gravel Resource Area	Sector	Million Short Tons Resources[a]
Little Rock Wash Fan	D-1	289
	D-2	514
	D-3	60
	D-4	120
	D-5	11
Subtotal		994
Big Rock Wash Fan	E-1	132
	E-2	177
	E-3	124
	E-4	512
	E-5	216
Subtotal		1,161
Total		2,155

[a] Includes reserves.

Source: California Department of Conservation, DMG, SMARA Designation Report No. 6.

3.5.2 OPEN SPACE

Open space is generally defined as vacant areas without any development which may include both man-made and natural landscapes. It refers to all land and water in an area that is not covered by streets or buildings, and may refer to areas as small as a pocket park or as large as the local mountain ranges. Lands dedicated to open space uses are devoted to the conservation of onsite natural resources, resource management, or natural views, or are kept undeveloped for recreational, public health, or safety purposes. Open space can separate or unify urban functions or areas, depending on its form and location.

Existing Resources

The City of Palmdale currently contains vast amounts of open space. Local open space resources include undeveloped land, parks, golf courses, floodplain areas, steep slopes, earthquake fault areas, and all existing natural conservation areas. Much of the Planning Area's open space is explained by the lack of development on private land. A large portion of this currently vacant land is planned for development. Unless some of this land is designated as open space, it is likely that development will occur during the life of the proposed General Plan.

The unincorporated portion of Ritter Ridge, in the southwestern section of the Planning Area, was designated by Los Angeles County as a significant ecological area (SEA) for its geologic features and plant and animal resources. Palmdale is processing an application for the Santa Fe Specific Plan for 794 acres on the eastern portion of Ritter Ridge. Mature and significant stands of native vegetation, including Joshua trees, are also found in scattered undeveloped areas in the central, northern, and eastern portions of the Planning Area. The Sierra Pelona Mountains provide hiking trails and a scenic quality to nearby roads and developments.

Orchards near Littlerock and Quartz Hill, and almond trees by Godde Hill, are remnants of Palmdale's agricultural past. The rural nature of existing development in many portions of the area, including the Leona Valley, also contribute to the presence of open space. Lake Palmdale, near the entrance to the Antelope Valley from the Antelope Valley Freeway, is a cold water reservoir that offers recreational uses to the Palmdale Fin and Feather Club. The largest single source of open space in the Planning Area is the surrounding hills and

mountains, which provide a wide variety of recreational opportunities, such as hiking, camping, and equestrian trails.

Open space in the desert and foothills of the Antelope Valley serve not only the residents of Palmdale, but visitors from other parts of the region as well. The natural rock formations and native vegetation found in open spaces contribute to the natural beauty of the area and provide educational and recreational opportunities to interested visitors and residents.

Open space in scattered areas of Palmdale is rapidly disappearing with the construction of new housing developments. More than 1,500 building permits for housing units have been issued in the Planning Area each of the last 3 years. New commercial and retail facilities have also been added, most notably along the Antelope Valley Freeway, Sierra Highway, and Palmdale Boulevard. As urbanization in the City continues, the amount of open space will continue to decline.

The decline of agriculture in Palmdale reflects that of agriculture throughout the Antelope Valley. Agricultural land use in the valley has diminished substantially during the past 15 years. Currently, agricultural production in Palmdale is occurring only on a few large parcels within the Los Angeles Department of Airport's future Regional Airport site. According to the Los Angeles Department of Airports and the Department of Agriculture, about 1,560 acres are currently being used agriculturally. Crops consist of pistachio orchards, pine and ornamental trees, sod farms, and onion farms. This area is not classified by the state as prime agricultural land. Agricultural production from these parcels is not considered to be regionally significant, and is planned as an interim use until such time as the Regional Airport is developed.

3.6 LAND USE

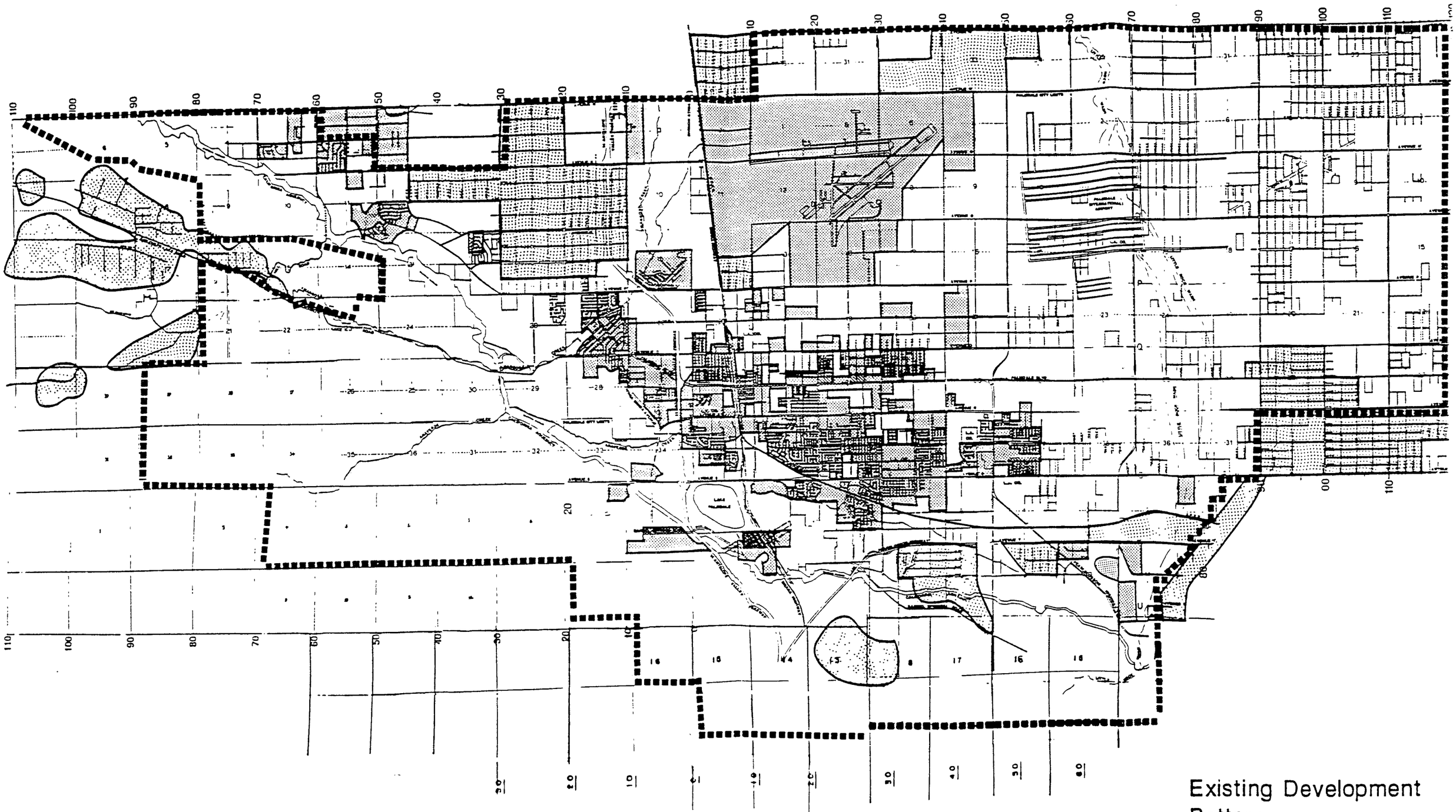
As stated in Section 2, Project Description, the City of Palmdale is an approximately 78-square-mile area in the northern portion of Los Angeles County. It has an irregular boundary, with unincorporated areas of the County on the east, south, and west, and the City of Lancaster on the north. Within the city boundaries, there are several unincorporated territories which are functionally "islands" under the County jurisdiction. The Planning Area, including both the City of Palmdale and surrounding unincorporated County areas, covers approximately 174 square miles generally from 110th Street West to 120th Street East and from Avenues L and M on the north to Avenue S, Barrel Springs Road, and the mountain ranges on the south. Previously referenced Exhibit 2-2 shows the City and Planning Area boundaries.

The City of Palmdale began as an agricultural community in the late 1800s with the majority of the population involved in cattle herding and mining. The alfalfa industry started in the 1900s, but the steady rise in the cost of providing water stifled the industry. The development of the Edwards Air Force Base in 1933 signalled the urbanization of the area and the start of the aerospace industry in the Antelope Valley. Support industries and a technical workforce followed.

As the metropolitan Los Angeles area developed, vacant and affordable land could only be found further from the City of Los Angeles. This has made the Antelope Valley a practical location for affordable housing. Residential developments during the last 5 years account in large part for existing development in the City.

Existing Development Patterns

Table 3-11 provides a breakdown of existing land use acreage and Exhibit 3-21 shows the existing development pattern in the Planning Area. As can be seen in Table 3-11, the majority of land in the Planning Area (approximately 80 percent) is presently vacant. Residential uses account for approximately 12 percent of existing land use, and non-residential development, including commercial uses, industrial uses, public facilities, and the United States Air Force (USAF) Plant 42, represent approximately 7.5 percent of existing land use.



Legend

URBAN DEVELOPMENT

SCATTERED/RURAL DEVELOPMENT

North

0 4000 8000 FEET

Existing Development Pattern

Palmdale General Plan

EXHIBIT 3-21

Agricultural areas, parks, and open space, represent less than 2 percent of existing land use in the Planning Area.

TABLE 3-11

EXISTING LAND USE ACREAGES - PALMDALE Planning Area

Land Use Category	Acres	Percent
Rural Residential (less than 1 du/ac)	1,342	1.2
Single-Family Residential (1-6 du/ac)	10,841	9.7
Multi-Family Residential (7-35 du/ac)	717	0.6
Mobilehome (7-18 du/ac)	244	0.2
Commercial	529	0.5
Industrial[a]	1,842	1.7
Public Facilities	494	0.4
USAF Plant 42	5,470	4.9
Agriculture	741	0.7
Parks and Open Space	677	0.6
Vacant	88,630	79.5
Total	111,527	100.0

[a] Includes industrial facilities and Air Force Plant 42.

Source: Michael Brandman Associates from survey and aerial photographs, May 1989.

Residential Development

Existing residential development within the City of Palmdale is predominantly single family detached housing on lots of 10,000 square feet or less. Until the mid-1980's, residential land uses were generally located within

a core area bounded by Avenue Q, 47th Street East, Avenue S, and the Antelope Valley Freeway. This core area contained a variety of residential use types, including apartments, townhomes, and mobile home parks in addition to a high percentage of single family detached residences on lots ranging from 7,000-8,000 square feet in size. More recently, residential development has expanded further to the east, west, and south in response to lower land prices, the availability of larger development parcels, and the marketability of hillside (view) lots. Single family residential developments now extend westerly to 70th Street West, and southerly to Pearblossom Highway, and east to 60th Street East. Development west of 50th Street West has been maintained at a density of approximately 2-3 dwelling units per acre, while the southerly expansion has resulted in typical 7,000 square foot lot subdivision with a density of around 4 dwelling units per acre.

Multiple family residential uses have been established in two general areas of the City. One of these areas is bounded by Avenue Q, Avenue R, 5th Street East, and 15th Street East. Developments in this area range in size from 3-4 unit infill projects to projects containing more than 100 units. This area has historically contained single family residences, which are now intermixed with the multi-family projects. A second major corridor or multiple family development has occurred along Avenue R, from 15th Street East to 20th Street East. Uses within this area include both apartment projects and a single family attached (townhome) project. Densities within this area are around 18-20 units per acre.

Additionally, multi-family apartment projects are concentrated in the areas near Avenue R at Division Street, and south of Avenue S near 10th Street East. Large projects of several hundred units have also been completed within the last several years west of the freeway at 5th Street West and at 25th Street East and Avenue S. Densities of these projects range from 14-18 dwelling units per acre.

There are 10 mobile home parks currently located within the City of Palmdale at an average density of 15 dwelling units per acre. Five of these parks are located within a 1/2-mile radius of the intersection of Avenue R and 40th Street East. Another two parks are located within the Rancho Vista Specific Plan area, west of 45th Street West. The remaining parks are scattered throughout the City. A majority of these mobile home parks were developed under Los Angeles County and were subsequently annexed to the City.

Residential land uses within the sphere of influence portion of the Planning Area are primarily located within two areas known as the Southside and Westside areas. Each of these areas is rural in nature and is comprised of parcels ranging from 1-5 acres. Each of these areas are the subject of a Memorandum of Understanding approved by the City and affected homeowners' groups, in which both parties agree to preserve rural lifestyles and prevent encroachment by incompatible uses.

Non-Residential Development

In the past, commercial activity within the City developed primarily in linear patterns along Palmdale Boulevard and Sierra Highway, serving the need of the adjacent neighborhoods. As the community grew during the 1970s, traveler-related activities such as motels and gas stations continued this pattern, creating the Palmdale Boulevard commercial corridor. Today, Palmdale Boulevard and Sierra Highway are established as the City's downtown area and offer a wide variety of general retail and commercial activities such as used car sales, auto repair, appliance and furniture stores, banks, medical and dental clinics, restaurants, and motels.

Rapid residential growth in the mid-1980's created a demand for more neighborhood commercial centers in central Palmdale. In addition, growth in the City's outlying areas resulted in the creation of new neighborhood shopping centers located away from the Palmdale Boulevard commercial areas. In response to this need, neighborhood shopping centers were established at key intersections throughout the City. Additionally, the area bisected by the Antelope Valley Freeway from Avenue P south to Palmdale Boulevard has emerged as a regional commercial corridor due to the recent development of the Antelope Valley Mall and two other high-volume retail centers.

Aerospace and related industries dominate the industrial and business sector in Palmdale. U.S. Air Force Plant 42, located within the north central portion of the City, provides facilities for a majority of aerospace industries. Another predominant industrial use operating in the City of Palmdale is sand and gravel mining and related uses. There are six mining operations located along the Little Rock Wash on the eastern edge of the City, and one mining operation located on the west side of the City at 70th Street West, south of the California Aqueduct. In addition, there are six concrete batching operations, three asphalt batching operations, and one concrete pipe manufacturer located within the Little Rock Wash area.

Other industrial businesses in the City are categorized as multi-tenant and single-tenant users. The majority of the multi-tenant business and industrial parks are located west and south of Plant 42 and range in size from 8,000 square feet up to 80,000 square feet. Additionally, single-tenant industrial users from 10,000 square feet to 68,000 square feet operate over 300,000 square feet of industrial business in the City. The majority of these businesses are located in an approximately 4-square-mile area bounded by Avenues P and Q, and Sierra Highway to 30th Street East. A large number of industrial businesses are also located along 6th Street East, many of which have operated since the time of the City's incorporation thirty years ago.

Development Constraints

While a majority of the Planning Area is vacant, there are development constraints which reduce the amount of developable land by as much as 20 percent. The San Andreas Fault crosses the City on the western and southern portions, running southeast. Flood hazard areas associated with Little Rock Wash, Big Rock Wash, Amargosa Creek, and Anaverde Creek cover approximately 66 square miles. The hillsides of the Sierra Pelona and the San Gabriel mountains pose geologic hazards and construction limitations. The USAF Plant 42 aircraft crash zones are west and northeast of the plant. These constraints limit the use and intensity of development that may occur within certain portions of the Planning Area.

The development trend is moving farther away from the city center. Even with older developments clustered at the center, vacant infill lots abound. The checkerboard pattern of development has resulted in land use management concerns in the City. The needed infrastructure and public services cannot always be provided in areas that have limited development. The provision of utilities has given rise to a large number of service districts, often overlapping or leaving out small, unserved pockets.

3.7 POPULATION

The City of Palmdale incorporated on August 24, 1962. The City's land area at the time of incorporation was approximately 2.1 square miles. Annexations have increased the City's land area to approximately 78 square miles as of July 1992. Currently, the majority of residents in the Palmdale Planning Area are located within the Palmdale City limits. Residents are also located in "islands" of unincorporated County land near the center of Palmdale. Unincorporated areas southwest of the City, including the Ritter Ranch Specific Plan Area, are primarily undeveloped and unpopulated.

As the first City in the Antelope Valley, Palmdale was a predominantly rural and agricultural community in the early years. Industrial expansion in later years attracted a number of support services and a technical workforce. With the growth of the aerospace industry in the region, the urbanization of the City was not far behind. Table 3-12 shows historic population growth in the City since 1965. From 7,476 persons in 1965, the population has grown to an estimated 84,348 persons in January 1992 (State Department of Finance estimate for the City).

Population characteristics for the City of Palmdale are detailed in the City's Housing Element. The City's 1990 population was younger, wealthier, and more ethnically diverse than in 1980. In 1990, 22 percent of Palmdale's population was Hispanic, 6 percent African-American, 67 percent white, 4.1 percent Asian, 6 percent Native American, and 0.3 percent other race. Median age in 1990 was 27.6, and 35 percent of the population was under 18. Only 4.8 percent of the population was over 65. Median income was 41,974, compared to 34,965 in the county overall. In 1990, 20 percent of the City's households had incomes below 50 percent of the median income, and 8 percent of all households lived below the poverty line.

In recent years, Palmdale has been one of the fastest growing cities in the region. Expansion of the City's borders through annexation has contributed to population increase but the rapid population growth which has occurred is primarily attributed to the availability of affordable housing in the Antelope Valley. According to the State Department of Finance, 84,238 people reside in Palmdale as of January 1, 1992. Growth in the adjacent county areas has occurred but not to the extent experienced within the City's corporate boundaries. The Los Angeles County Department of Regional Planning has estimated that overall population growth in the Antelope Valley has averaged 11.8 percent per year during the last decade. Preliminary information from the

1990 census indicates a population of 232,928 persons in the Antelope Valley as of January 1990. Considering the 1990 population within the City's corporate limits (68,842) and an estimated 16,911 people residing in adjacent unincorporated areas, as of January 1990 there were approximately 85,735 persons residing within the Planning Area. Current estimates have placed Palmdale's 1992 population at 84,238. Therefore, it is likely that the Planning Area's population now exceeds 100,000 people.

TABLE 3-12

CITY OF PALMDALE POPULATION GROWTH, 1965-1992

Year	Population	Annual Growth Rate
1965	7,476	
1970	8,511	2.77%
1975	11,400	6.79%
1980	12,277	1.54%
1985	25,593	21.69%
1990	68,842	33.80%
1991	78,046	13.37%
1992	84,348	8.07%

Source: City of Palmdale Housing Element, based on State Department of Finance.

Employment

According to the Southern California Association of Governments (SCAG), in 1984, the City of Palmdale had 8,409 jobs and a jobs/housing ratio of 0.48:1 (0.48 jobs per household). SCAG also projected that by the year 2010, the City would have 31,604 jobs and 45,755 housing units, equating to a jobs/housing ratio of 0.69:1. According to city estimates, there are presently approximately 22,300 jobs and 29,348 dwelling units within the City. This data corresponds to a jobs/housing ratio of 0.76:1.

Employment in the Antelope Valley area was historically rooted in the aerospace/manufacturing sector, but has recently shifted sightly toward service oriented jobs. The Lancaster Job Service office of the State Employment Development Department (EDD) projects that by the end of 1992, there will be approximately 85,000 jobs in the Antelope Valley, with service jobs comprising roughly 28 percent of the total or 23,800 jobs, ranging from food and lodging to legal services. This shift is a result of the rapid increase in population creating a demand for support services.

Based on 1992 projections by EDD, the wholesale/retail sector will provide 25 percent of employment in the Antelope Valley or 21,250 jobs. Because of secrecy in aerospace production activities, employment at USAF Plant 42 and adjacent facilities is difficult to accurately determine. However, it is estimated that aerospace will account for approximately 23 percent of the total workforce jobs (19,550) in the valley area. The remaining 24 percent of the area wide jobs (20,400) will occur in either the agricultural, construction, finance, real estate, mining, transportation, communications, or accounting sectors. Major shopping centers such as the Antelope Valley Mall, the Palmdale Promenade and the Marketplace in Palmdale, and numerous supermarkets have opened in valley, resulting in more job opportunities. Construction work has leveled off due to the slow down in housing construction, but still contributes significantly to the workforce. In spite of the development of the local job market, approximately 30 percent of the resident population still commutes to jobs outside the Antelope Valley.

Population and Employment Growth

In 1987, SCAG estimated that the City of Palmdale would have a population of 62,193 residents by the year 2010. However, this estimate has already been exceeded according to 1992 State Department of Finance data, which estimates the City's 1992 population to be 84,238 residents. Based on recent building trends that indicate a housing growth of approximately 3,000 units per year, City Planning Staff have estimated Palmdale's 2010 population to be 264,216. This estimate assumes there will be 83,349 dwelling units with an average household size of 3.17 persons per household. Approximations of population growth based on the 1980 to 1990 annual growth rate for the Antelope Valley (11.8 percent according to the Los Angeles County Department of Regional Planning) indicate that the City's 2010 population would be 181,918 residents.

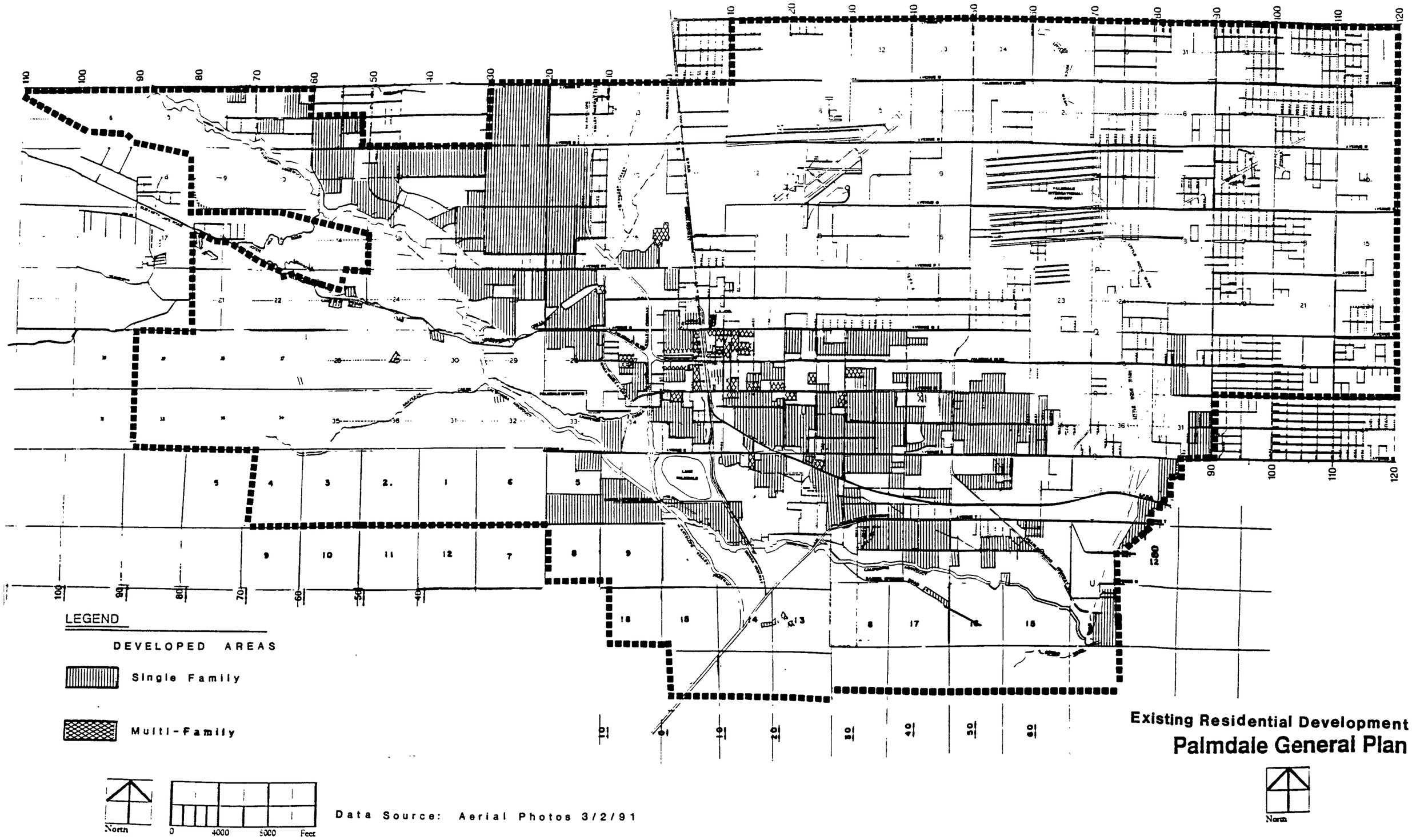
While population has increased dramatically, the laobr market has not grown at a comparable rate. palmdale and the Antelope Valley continue to be housing-rich areas. SCAG considers the five-county regional jobs/housing ratio of 1.22 jobs per housing unit to be an indicator of relative balance between jobs and housing in an area. According to SCAG, the Antelope Valley (North Los Angeles Subarea) is projected to have a 0.72 jobs/housing ratio in the year 2010.

3.8 HOUSING

Table 3-13 shows housing growth in the City of Palmdale between 1980 and 1992. The City's existing housing stock, which totalled 24,418 units in 1990 and is estimated at 29,348 units in 1992, is predominantly made up of single-family units (71.7 percent of total housing stock). Multi-family projects with five or more units make up 16.9 percent; mobile homes, 6.8 percent; and multi-family projects with two to four units, 2.9 percent (see Table 3-13). Approximately 83 percent of the City's housing stock is relatively new (built between 1980 and 1992). The City's residential areas primarily consist of new housing tracts and rural large lots. Residential development in the City is dispersed throughout the City's 78-square-mile area.

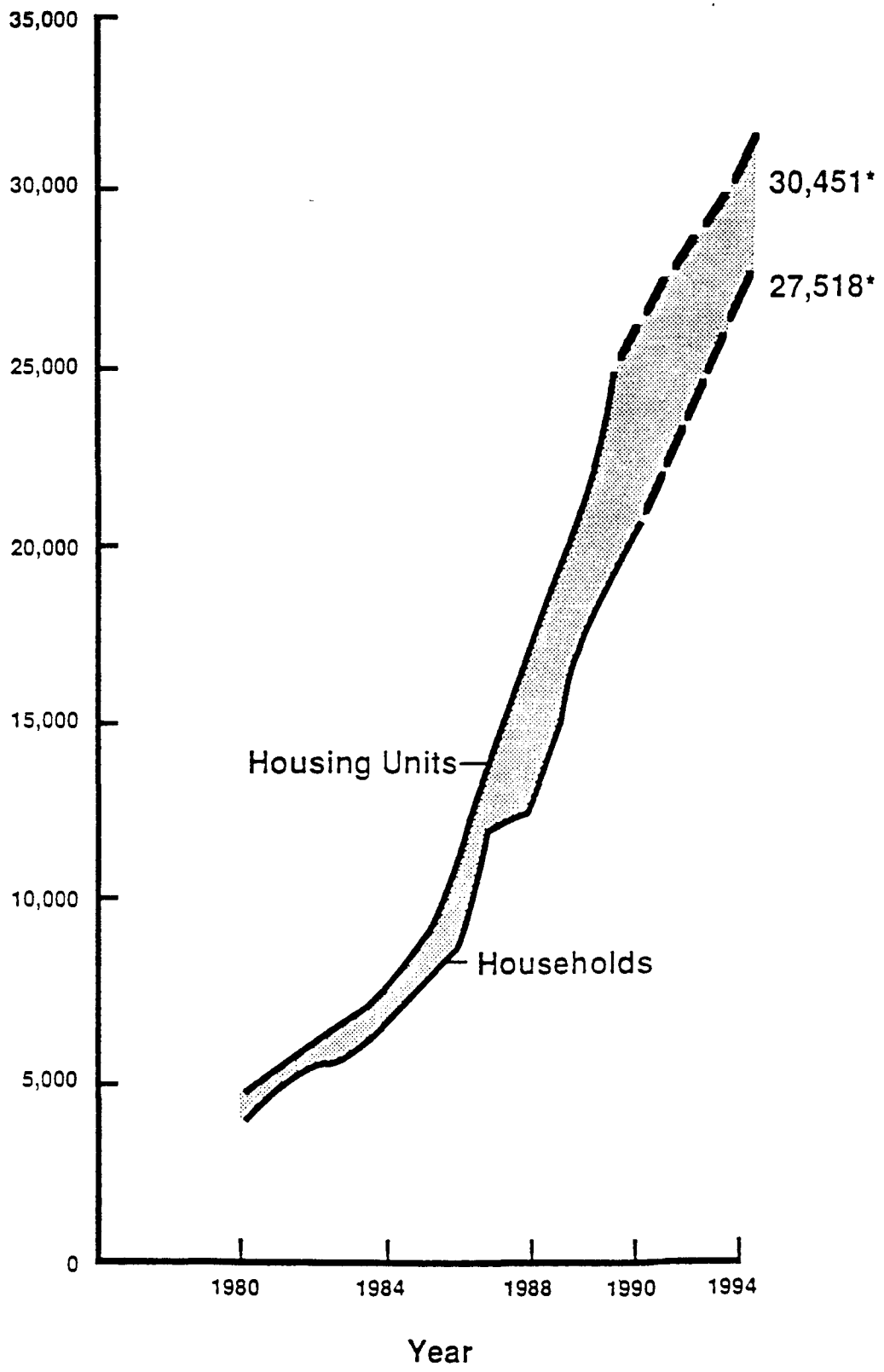
While the majority of existing housing units in the Palmdale Planning Area are located in areas within the City of Palmdale, there are also some residences located in unincorporated County areas situated near the center of Palmdale. These residential units are included in the County's South Antelope Valley Statistical area, which was estimated to have a total of 5,761 housing units in 1990 based on the preliminary 1990 Census. Therefore, it is estimated that the current number of housing units for the entire Planning Area exceeds 35,000 units.

The availability of inexpensive vacant land in the Antelope Valley has made housing costs lower than nearby areas and has created a housing boom in the region, including Palmdale. Exhibit 3-22 shows the location of existing residential and other development in the Planning Area. The favorable building climate is reflected by housing stock growth in recent years, as shown in Table 3-13, and Exhibit 3-23.



Existing Residential Development
Palmdale General Plan

Exhibit 3-22



Source:
Population and Housing Estimates for California Cities and Counties, State Department of Finance.
* (SCAG Projections)

Household and Housing Stock Growth
Palmdale General Plan

Exhibit 3-23

TABLE 3-13

HOUSING STOCK GROWTH
CITY OF PALMDALE

Year[a]	Single-Family Number	Single-Family Percent	2 to 4 Units Number	2 to 4 Units Percent	5 or More Units Number	5 or More Units Percent	Mobilehomes Number	Mobilehomes Percent	Total Number of Units	Annual Growth Rate (percent)
1980	3,114	62.5	307	6.2	1,217	24.4	344	6.9	4,982	----
1981	3,472	64.7	307	5.7	1,239	23.1	349	6.5	5,367	7.73
1982	3,925	64.5	327	5.4	1,319	21.7	511	8.4	6,082	13.32
1983	4,186	62.3	366	5.5	1,559	23.2	604	9.0	6,715	10.41
1984	4,656	61.6	394	5.2	1,790	23.7	723	9.5	7,563	12.63
1985	5,513	62.7	399	4.5	2,130	24.2	751	8.6	8,793	16.63
1986	6,785	63.0	403	3.7	2,519	23.3	1,063	10.0	10,770	22.48
1987	8,741	62.5	415	3.0	3,518	25.1	1,390	9.4	13,983	29.83
1988	10,452	61.7	468	2.8	4,723	27.9	1,292	7.6	16,935	21.11
1989	12,963	64.8	486	2.4	5,073	25.3	1,497	7.5	20,019	18.21
1990	16,780	68.8	596	2.4	4,951	20.3	2,091	8.6	24,418	22.0
1991	19,833	71.8	817	2.0	4,951	17.9	2,019	7.4	27,670	13.3
1992	21,539	73.4	854	2.9	4,951	16.9	2,004	6.8	29,348	6.1

[a] Figures are calculated as of January 1 of each year.

Source: Population and Housing Estimates, California Department of Finance.

Rental costs in the City are lower than Los Angeles Urban County Fair Market Rents. This provides lower income households with greater opportunities to use Section 8 rental subsidies. Household and housing characteristics are discussed in more detail in the City's Housing Element.

The Regional Housing Needs Assessment by SCAG estimates existing and future housing needs for the region. In 1988, SCAG estimated that Palmdale had an existing need for 2,422 housing units, representing the number of households that overpay for housing (see Table 3-14). Projected housing needs to accommodate the projected household growth in Palmdale from 1989-94 are estimated by SCAG at 9,762 units. Table 3-15 shows the projected housing needs for the 1989-94 period. Palmdale's 1988 need was 0.4 percent of Los Angeles County's 1988 need and the City's future housing needs represent 3.3 percent of the County's future need (291,983 units).

TABLE 3-14

HOUSING OVERPAYMENTS, 1988
CITY OF PALMDALE

	Number of Households	Percent of Total Households
Total Households	14,443	100.00
Low and Very Low Income Households	5,503	38.10
Total Overpaying	2,422	16.77
Very Low Income	1,637	11.33
Renters	1,218	8.43
Homeowners	419	2.90
Low Income	785	5.44
Renters	540	3.74
Homeowners	245	1.20

Source: SCAG Regional Housing Needs Assessment 1988.

TABLE 3-15

PROJECTED HOUSING NEEDS (1989-1994)
CITY OF PALMDALE

Income Level	# of Housing Units Needed	% of Total
Very Low Income (less than 50% of county median)	1,529	16
Low Income (50 to 80% of county median)	2,245	23
Moderate Income (81 to 120% of county median)	1,854	19
High Income (more than 120% of county median)	4,134	42
Total	9,762	100

Source: SCAG Regional Housing Needs Assessment 1988.

3.9 TRANSPORTATION AND CIRCULATION

This section is based on the City of Palmdale Circulation Element dated June 1992. The section addresses the existing circulation system, including the roadway capacity, intersection capacity, public transit systems, and other transportation/circulation issues.

3.9.1 REGIONAL SETTING

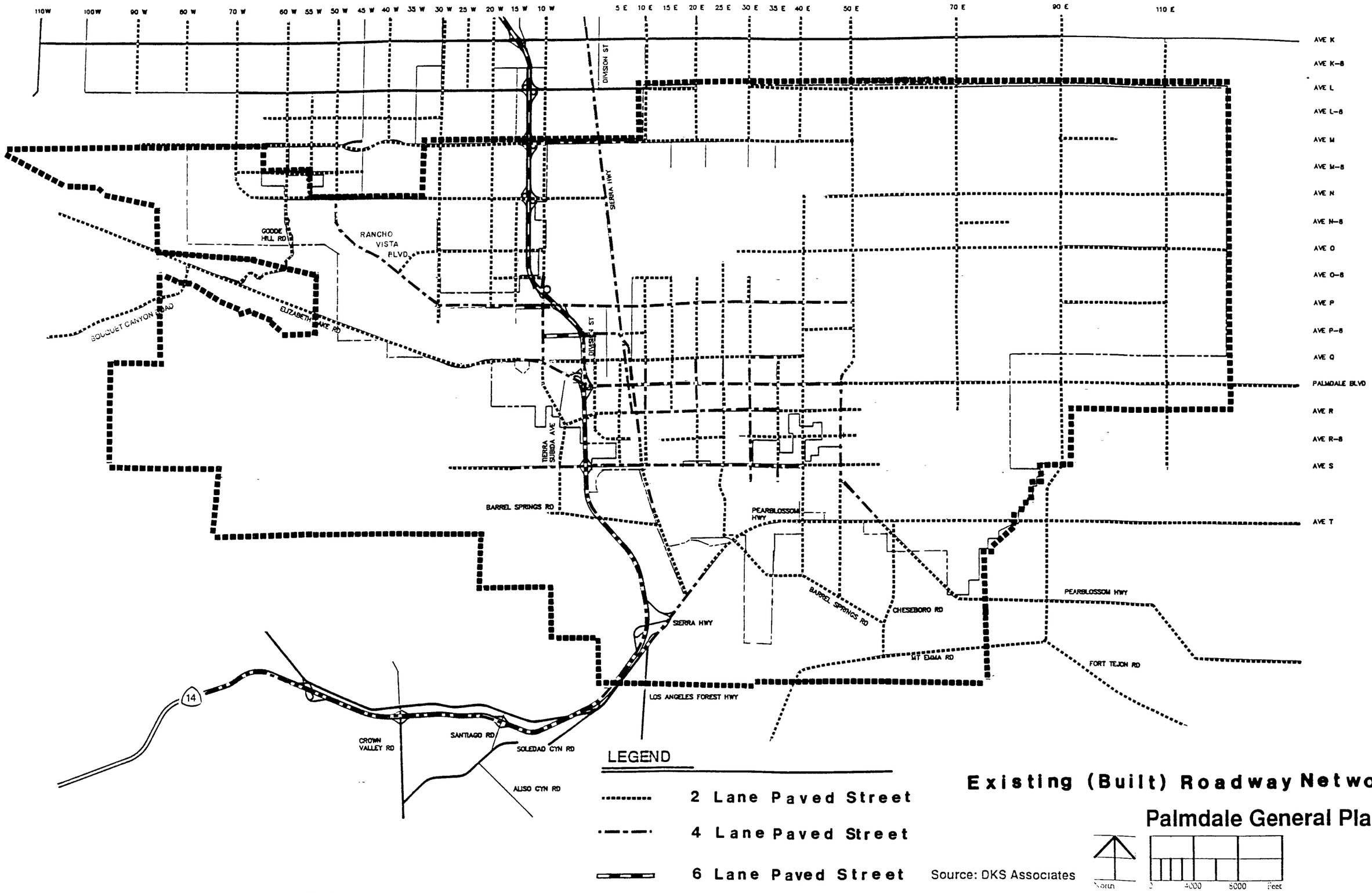
The City of Palmdale is located about 35 miles north of Los Angeles on a straight heading, and about 60 miles north of Los Angeles via the Antelope Valley Freeway (SR-14). SR-14 runs north into Kern County and south to the San Fernando Valley to provide the Palmdale community with regional and inter-regional connectivity via an interchange with the Golden State Freeway (I-5). The I-5 runs north into Central and Northern California, as well as to the south into Orange and San Diego counties.

The Arterial System in the Regional Context

Several arterials in the City of Palmdale serve a regional function as well as local needs. Palmdale Boulevard connects Palmdale with Victorville to the east in San Bernardino County. Elizabeth Lake Road, which is an extension of Palmdale Boulevard west of SR-14, connects via Highway 138 to I-5 near the Ventura County border. Pearblossom Highway (SR-138) branches near the San Bernardino County border into Palmdale Road, which connects to I-15 near Victorville, and SR-138, which connects to I-15 near San Bernardino. Sierra Highway links Palmdale with the City of Mojave to the north in Kern County and with the I-5/SR-14 interchange to the south near Sylmar.

3.9.2 DESCRIPTION OF THE EXISTING CIRCULATION SYSTEM

Palmdale's existing roadway network and functional classification system is illustrated in Exhibit 3-24. Exhibit 3-25 depicts 1990 average traffic volumes for the primary arterials within the city.

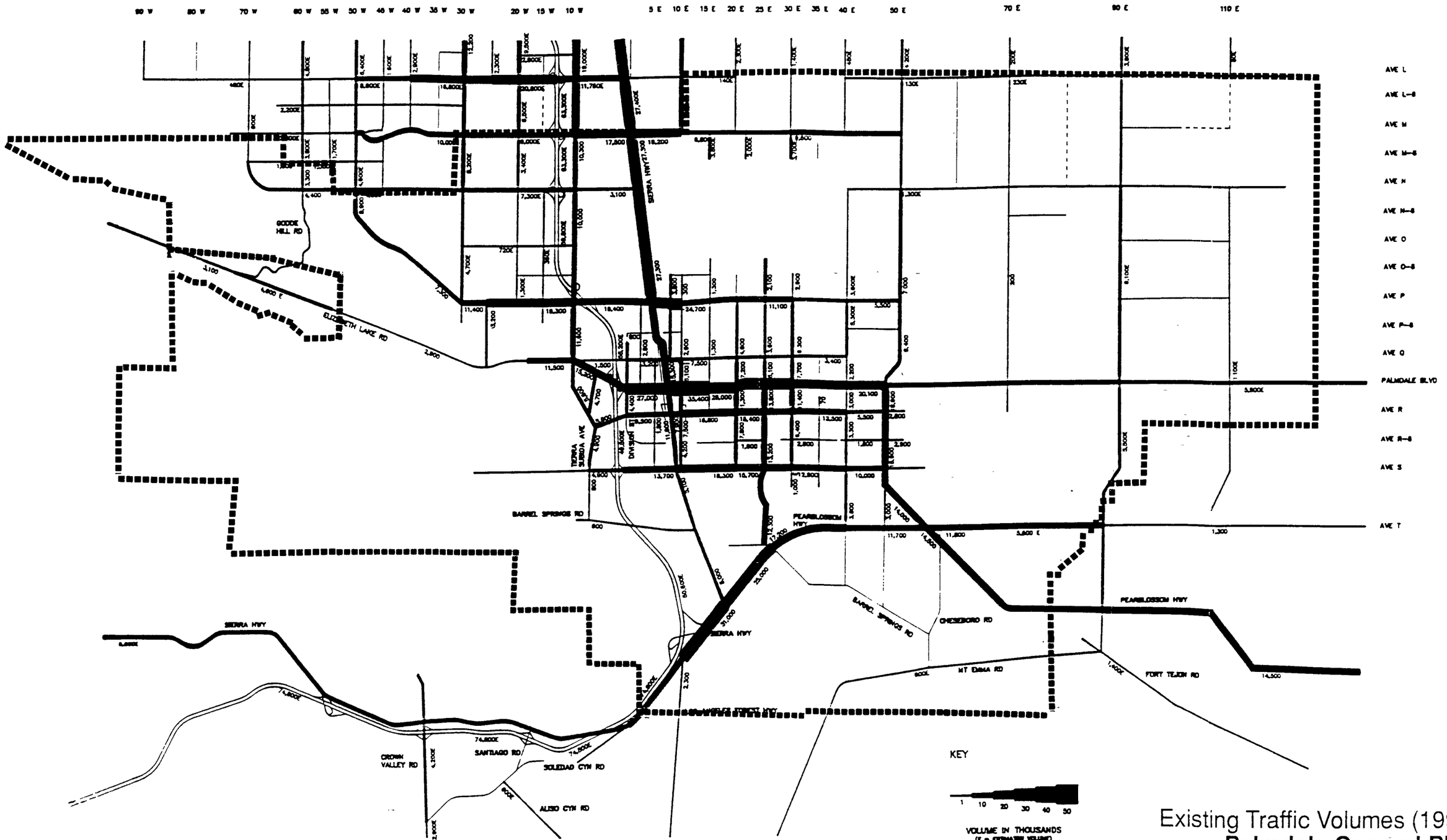


Source: DKS Associates

Existing (Built) Roadway Network

Palmdale General Plan

Exhibit 3-24



Existing Traffic Volumes (1990)
Palmdale General Plan

North

Exhibit 3-25

Antelope Valley Freeway

State Route 14 is the only freeway currently serving the entire Antelope Valley. This north/south freeway provides regional access between Palmdale and the rest of Los Angeles County to the south and Kern County to the north. Further south, SR-14 becomes an east/west route providing access to the Santa Clarita Valley. It has four travel lanes south of Avenue P-8 and six travel lanes north of Avenue P-8. The 1990 average daily traffic (ADT) volumes on the Antelope Valley Freeway range between 50,000 and 60,000 trips in the City of Palmdale.

Major Arterials

Based on the existing City General Plan, the city streets indicated in Table 3-16 are designated as major arterials. If a particular street is designated as both a major arterial and a minor arterial along different segments, the segment designated as a major is specified.

The major arterials are spaced at approximately 1-mile intervals, and represent the major carrying capacity for traffic to and within the City. The City's current policy is to create "major arterials" at 1-mile intervals and "minor arterials" at the one-half mile intervals between the majors. Current design standards for a major arterial call for a paved section of 84 feet within a 100-foot right-of-way. When built to its full carrying capacity, these dimensions provide for either three lanes of through traffic in each direction and a median for left-turning traffic, or two lanes in each direction, a left-turn median, and a curb lane for parking. In some portions of the City, the median is paved to create exclusive left- and U-turn bays; in other locations, painted medians with optional/dual left-turn lanes are used.

Some of the major arterials within Palmdale are discontinuous, and many have yet to be built to the full 84-foot paved cross-section along the entire length. A detailed discussion of each major arterial follows.

Avenue L is discontinuous along its length, which extends from west of 70th Street West to the City line at 120th Street East. It is classified as a major arterial west of 40th Street East, and as a minor to the east. It has a total of two through lanes over its length.

Avenue M extends from 90th Street West to east of the City line at 120th Street East, and has a total of two through lanes over its entire length.

Avenue N, a two-lane arterial, is discontinuous along its length. It reaches from 70th Street West to Sierra Highway, and from about 2,000 feet west of 40th Street East to east of 110th Street East.

TABLE 3-16

MAJOR ARTERIALS WITHIN THE PALMDALE PLANNING AREA

Facility	Location as shown on Existing Circulation Plan
Avenue L[a]	70th St. W. to 40th St. E.
Avenue M	90th St. W. to 120th St. E.
Avenue N	70th St. W. to Sierra Hwy; 40th St. E. to 110th St. E.
Avenue O	30th St. W. to 10th St. W.; 27th St. E. to 120th St. E.
Avenue P	30th St. to 50 St. E.
Avenue Q[b]	Sierra Highway to 40th St. E.
*Palmdale Blvd.	Elizabeth Lake Rd to 120th St. E.
*Elizabeth Lake Rd.	110th St. W. to Palmdale Blvd.
Avenue R	Tierra Subida Ave. to 47th St. E.
Avenue S	20th St. W. to 47th St. E.
*Pearblossom Hwy.	Sierra Hwy to 120th St. E.
Avenue T	Pearblossom Hwy to 90th St. E.
90th St. West	North of Avenue L
70th St. West[c]	Avenue L to Avenue M-8
60th St. West	Avenue K to California Aqueduct
Godde Hill Rd.	California Aqueduct to Elizabeth Lake Rd
50th St. West	Avenue K to Avenue N
40th St. West	Avenue K to Avenue M
30th St. West	Avenue K to Avenue P
20th St. West	Avenue K to Avenue P
10th St. West	Avenue K to Palmdale Blvd.
Tierra Subida Ave.	Palmdale Blvd. to Barrel Springs Rd.
Division St.	Avenue Q to Avenue R-8
*Sierra Highway	Avenue K to Southern Boundary
10th St. East	Avenue K to Avenue M; Avenue O-8 to Avenue S

TABLE 3-16 (continued)

Facility	Location as shown on Existing Circulation Plan
20th St. East[d]	Avenue K to Avenue M
25th St. East[e]	Avenue P to Avenue S
30th St. East	Avenue K to Avenue M; Avenue P to Avenue S
40th St. East[f]	Avenue O to Pearblossom Hwy
47th St. East[g]	Palmdale Blvd to SR-138
50th St. East	Avenue K to Palmdale Blvd
Fort Tejon Rd.	47th St. E. to SR-138
70th St. East[h]	Avenue L to Palmdale Blvd.
90th St. East	Avenue K to Avenue T

* Denotes a regional arterial
[a] Avenue L is a minor arterial east of 40th Street East.
[b] Avenue Q is a secondary arterial from Palmdale Boulevard to 6th Street East.
[c] 70th Street West is a secondary arterial from Avenue K to Avenue N, except noted portions.
[d] 20th Street east is a secondary arterial from Avenue O-8 to Avenue S.
[e] 25th Street East is a secondary arterial from Avenue S to Barrel Springs Road.
[f] 40th Street East is a secondary arterial from Pearblossom Highway to Barrel Springs Road.
[g] 47th Street East is a secondary arterial from SR-138 to Barrel Springs Road.
[h] 70th Street East is a secondary arterial from Avenue K to Avenue L.

Source: City of Palmdale General Plan, DKS Associates 1990.

Avenue Q has two segments: one extends from 30th Street West to 10th Street West, and the other extends from 27th Street East to east of the City line at 120th Street East. Avenue O has a total of two through lanes.

Avenue P extends from 30th Street West to 50th Street East. It has four through lanes over much of its length, except for the segment between 10th Street West and 15th Street West, which has a total of six lanes.

Avenue Q is discontinuous along its length. It reaches from Palmdale Boulevard to 6th Street East where it is classified as a secondary arterial, and from Sierra Highway to 40th Street East where it is classified as a major arterial. This arterial has one through lane in each direction along its entire length, though between 30th and 35th Street East, the south side is currently paved wide enough for two lanes.

Palmdale Boulevard/Elizabeth Lake Road extends toward I-5 near the Ventura County border. This arterial has a total of two through lanes west of Foxholm Drive near the City limit, four lanes between Foxholm Drive and 47th Street East, and two lanes east of 47th Street East. In addition, Palmdale Boulevard has a full (partial cloverleaf) interchange configuration with the Antelop Valley Freeway and a raised, landscaped median island between 10th Street West and 11th Street East. Caltrans has removed the serrated median island between 11th and 22nd Streets East and is currently in the process of replacing it with a flash median.

Avenue R extends from Tierra Subida Avenue to 3,000 feet east of 47th Street East. It has two through lanes west of 6th Street East, four lanes between 6th Street East and 20th Street East, two lanes eastbound and one lane westbound between 20th Street East and 22nd Street East, four lanes between 22nd Street East and 30th Street East, and two lanes east of 30th Street East. The arterial crosses under the Antelope Valley Freeway but does not have an interchange.

Avenue S extends from 20th Street West to about 3,800 feet east of 47th Street East. It has two lanes over its entire length except for the following segments which have two lanes eastbound and one lane westbound: between Sierra Highway and 15th Street East, and between 25th Street East and 35th Street East. The remaining section has a total of two through lanes. The arterial has a full-diamond interchange with the Antelope Valley Freeway, providing regional connections to the north and south.

Pearblossom Highway (SR-138) reaches from Sierra Highway to the San Bernardino County border where it branches into Palmdale Road (SR-14) and Antelope Highway (SR-138). Within the City of Palmdale, it has four through lanes west of Old Nadeau Road, and two lanes to the east. Old Nadeau Road is located about 600 feet north of Sierra Highway.

Avenue T extends from Pearblossom Highway to east of 90th Street East and has two through lanes along its length.

90th Street West extends north of Avenue L and has two through lanes along its length.

70th Street West reaches from north of Avenue K to Avenue N and has two through lanes along its length. It is classified as a secondary arterial over most of this length, except for the segment between Avenue L and M-8, which is classified as a major arterial.

60th Street West extends from north of Avenue K, outside the City line, to the California Aqueduct where it becomes Godde Hill Road. It has a total of two through lanes.

Godde Hill Road is an extension of 60th Street West south of Avenue M to Elizabeth Lake Road. It has two through lanes along its length.

50th Street West reaches from north of Avenue K to south of Avenue N, where it becomes Quartz Hill Cutoff.

40th Street West, a two lane arterial, extends from north of Avenue K in Lancaster, south to Avenue M.

30th Street West extends from north of Avenue K to Avenue P and has two through lanes.

20th Street West, a two lane arterial, reaches from north of Avenue K to Avenue P.

10th Street West/Tierra Subida Avenue extends from north of Avenue K to Barrel Springs Road. It has a freeway interchange near Avenue P and is classified as a major arterial north of Avenue S, and as a secondary arterial to the south. It has two lanes over its entire length except for one-half mile south of Palmdale Boulevard where it has two lanes southbound and one lane northbound. It changes its name from 10th Street West, north of Palmdale Boulevard, to Tierra Subida Avenue, south of Palmdale Boulevard.

Division Street, a two-lane arterial, reaches from 1,500 feet north of Avenue Q to Avenue R-8.

Sierra Highway extends from the City of Mojave in Kern County, through Palmdale, and to the I-5/SR-14 interchange to the south. Within the City, it has four through lanes north of Avenue R-8, two lanes between Avenue R-8 and 1,200 feet south of Avenue S, four lanes between 1,200 feet south of Avenue S and 3,000 feet

north of Barrel Springs Road, and two lanes to the south. Sierra Highway generally runs adjacent to SR-14 and turns into an east/west arterial a few miles south of the Planning Area.

10th Street East is discontinuous along its length. It extends from north of Avenue K in Lancaster to Avenue M, and from Avenue O-8 to Avenue S. It has two through lanes along both segments.

20th Street East is also discontinuous, with two segments. It extends from north of Avenue K to Avenue M where it is classified as a major arterial, and from Avenue O-8 to Avenue S where it is classified as a secondary arterial. It has two through lanes along both segments.

25th Street East reaches from Avenue P to Barrel Springs Road. It has two through lanes over most of its length, except for the segment between Avenue S and 4,200 feet to the south which has four through lanes. 25th Street East is classified as a major arterial north of Avenue S, and as a minor arterial to the south.

30th Street East is discontinuous with two segments. It extends from north of Avenue K in Lancaster to Avenue M where it has two through lanes, and from Avenue P to 1,600 feet south of Avenue S. The number of through lanes varies between two and four along the segment between Avenue P and 1,600 feet south of Avenue S.

40th Street East extends from Avenue O to Barrel Springs Road. This arterial is classified as a major arterial north of Pearblossom Highway, and as a secondary arterial to the south and has two through lanes.

50th Street East extends from north of Avenue K to Palmdale Boulevard, where it becomes 47th Street East.

47th Street East. South of Palmdale Boulevard, 47th Street East continues on to south of Barrel Springs Road. This arterial (47th/50th Street East) has two through lanes over most of its length, except for the segment between Palmdale Boulevard and Fort Tejon Road which has four lanes and a two-way, left turn median. 47th Street East is classified as a major arterial north of Pearblossom Highway and as a secondary arterial to the south.

Fort Tejon Road reaches from 47th Street East to Pearblossom Highway, and has four through lanes with a continuous two-way left-turn median.

70th Street East extends from north of Avenue K to Palmdale Boulevard, and has two through lanes along its entire length. It is classified as a major arterial south of Avenue L, and as a secondary arterial to the north.

90th Street East extends from north of Avenue K to south of Avenue T, where it becomes 87th Street East. It has two through lanes along its entire length.

Minor Arterials

Based on the existing City General Plan, a number of city streets are designated as minor arterials (see Table 3-17). If a particular street is designated as both a major arterial and a minor arterial along different segments, the segment designated as a minor is indicated.

Minor arterials are spaced at approximately one-half mile intervals between the major arterials, and provide access to the major arterials. Current design standards for a minor arterial are a paved section of 64 feet within an 80-foot right-of-way width. When built to its full carrying capacity, this cross-section provides for either two lanes in each direction with a painted median left-turn lane, or one lane in each direction with a painted median left-turn lane and curb parking. Typically, minor arterials do not have a raised median. Some of the minor arterials within Palmdale are discontinuous, and have yet to be built to the full 64-foot paved cross-section along their entire length. A description of each minor arterial follows.

Avenue L, as previously discussed in Major Arterials section.

Avenue L-8 extends from 65th Street West to 20th Street West in the City of Lancaster and has a total of two through lanes.

Avenue M-8, a two lane arterial, extends from 70th Street West to 45th Street West.

TABLE 3-17

MINOR ARTERIALS WITHIN THE PALMDALE Planning Area

Facility	Location as shown on Existing Circulation Plan
Avenue L	West of 70th St. W. and east of 40th St. E.
Avenue L-8	65th St. W. to 20 St. W.
Avenue M-8	70th St. W. to 45 St. W.
Avenue N-8	70th St. E. to 80th St. E.
Avenue O-8	20th St. W. to 10th St. W.; Sierra Hwy to 15 St. E.
Avenue P-8	Discontinuous segments - Division St. to 50th St. E.
Avenue Q	Palmdale Blvd. to 6th St. E.
Avenue R-8	Discontinuous segments - 12th St. E. to 47th St. E.
Barrel Springs Road	Tierra Subida to Sierra Hwy; Pearblossom Hwy to Cheseboro Rd.
Bouquet Canyon Road	Elizabeth Lake Rd. to Southern Planning Area Boundary
80th St. West	Avenue K to Avenue L
70th St. West	Avenue L to Avenue N
45th St. West	Avenue K to Avenue L-14; Avenue M to Avenue N
25th St. West	Avenue K to Avenue L; Avenue P to Elizabeth Lake Rd.
15th St. West	Avenue N to Avenue O-8
Tierra Subida Avenue	Avenue S to Barrel Springs Rd.
5th St. East	Avenue Q to Avenue S
6th St. East	Sierra Hwy to Avenue R
15th St. East	Avenue O-8 to Avenue R
20th St. East	Avenue O-8 to Avenue S
25th St. East	Avenue S to Barrel Springs Rd.
35th St. East	Discontinuous segments - Avenue Q to Avenue S
40th St. East	Pearblossom Highway to Barrel Spring Rd.
47th St. East	Pearblossom Highway to Barrel Spring Rd.
70th St. East	Avenue K to Avenue L
110th St. East	Avenue K to Avenue S

Source: City of Palmdale Draft Circulation Element 1992.

Avenue N-8 extends from 70th Street East to 80th Street East.

Avenue O-8 is discontinuous and extends from 20th Street West to 10th Street West, and from 200 feet east of Sierra Highway to 15th Street East. It has two through lanes along both segments.

Avenue P-8 has three discontinuous segments between Division Street and 50th Street East. All segments are striped for two through lanes except for the segment between Division Street and Sierra Highway which is striped for four lanes. This facility parallels the alignment of the proposed freeway extension to the Palmdale Regional Airport.

Avenue Q, as previously discussed in Major Arterials section.

Avenue R-8 has four discontinuous segments between 12th Street East and 1,800 feet east of 47th Street East. All segments are striped for two through lanes, though many of them are paved wide enough for four.

Barrel Springs Road, a two-lane arterial, has two unconnected segments: from Tierra Subida Avenue to Sierra Highway and from east of Pearblossom Highway to Cheseboro Road.

Bouquet Canyon Road is a two-lane road which extends south from Elizabeth Lake Road along the alignment of 80th Street West and southwesterly into the Santa Clarita Valley. It winds through canyons and provides a regional connection with the western portion of the Planning Area.

80th Street West extends north of Avenue L and has two through lanes along its length.

55th Street West, a two lane arterial, extends from Avenue L, north of the City line, to Avenue N.

45th Street West has two unconnected segments: from north of Avenue K to Avenue L-14 and from Avenue M to Avenue N. Both segments are striped for two through lanes.

25th Street West has two discontinuous segments: from north of Avenue K to Avenue L in Lancaster and from Avenue P to Elizabeth Lake Road. Both segments have two through lanes.

15th Street West, a two lane arterial, extends from Avenue N to Avenue O-8.

Tierra Subida Avenue, as previously discussed in the Major Arterials section.

5th Street East extends from Avenue Q to Avenue S, and has a total of two through lanes.

6th Street East extends between Sierra Highway and Avenue R. It has four through lanes south of Palmdale Boulevard and two lanes to the north.

15th Street East reaches between Avenue O-8 and Avenue R, and has two through lanes.

20th Street East, as previously discussed in the Major Arterials section.

25th Street East, as previously discussed in the Major Arterials section.

35th Street East has three discontinuous segments between Avenue Q and 1,600 feet south of Avenue S. All segments are striped for two through lanes although some of them are paved wide enough for four.

40th Street East, as previously discussed in the Major Arterials section.

47th Street East, as previously discussed in the Major Arterials section.

70th Street East, as previously discussed in the Major Arterials section.

110th Street East extends from Avenue K to Avenue S, and has a total of two through lanes along its entire length.

3.9.3 EVALUATION OF PALMDALE'S EXISTING CIRCULATION SYSTEM

The evaluation of Palmdale's circulation system focuses on two major criteria: capacity and connectivity. Capacity refers to the ability of the street system (roadways and intersections) to adequately serve the demand placed on it. It is a measure of how well the mobility needs of the City are provided for. Connectivity is defined less precisely as a measure of how well various parts of the system are joined together, and how easy it is to move between different areas of the City. Connectivity is also related to how well land access is provided in the City.

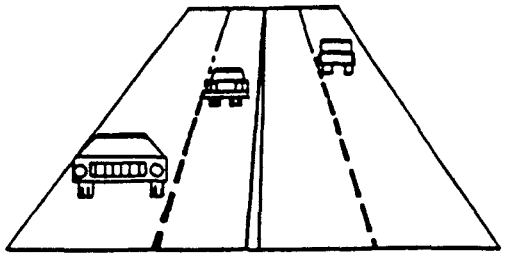
Descriptions of Capacity Evaluation

The capacity of a roadway is affected by a number of factors, including the street's width, the number of crossing arterials and collectors, the amount of green time given to the street at each signal, the presence or absence of on-street parking, the number of turning lanes at each intersection, and the number of driveways.

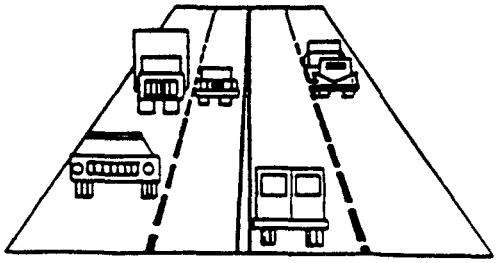
Utilization of an intersection during the peak hour provides a measure of service level. A left-turn lane was assumed for two and three-lane facilities. A right-turn lane were assumed to be shared with the outermost through lane.

The Planning Application of the Critical Movement Analysis procedures, which are outlined in Transportation Circular 212, were used to determine intersection utilization. This methodology evaluates a worst-case condition as compared to the Intersection Capacity Utilization (ICU) methodology. Circular 212 includes capacity reductions associated with various operational considerations, including dual left turns, right turns, quantity of opposing traffic, and other related factors. The ICU methodology has no reduction in lane capacity due to these types of operational considerations. As a result, the volume-to-capacity ratios for critical movement analysis methodology shown in Circular 212 tend to be higher than for the ICU methodology.

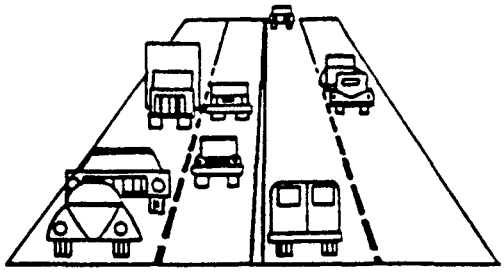
Table 3-18 provides a description of service levels, based on the volume of traffic compared to the capacity of the roadway (see Exhibit 3-26). LOS E reaches the ultimate capacity of the street and is considered to be the maximum acceptable operating condition.



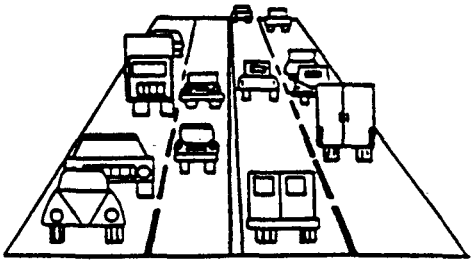
Level of Service A *is the highest quality of service a particular class of highway can provide. It is a condition of free flow in which there is little or no restriction of speed or maneuverability caused by the presence of other vehicles. Operating speed is in the highest range and density is low.*



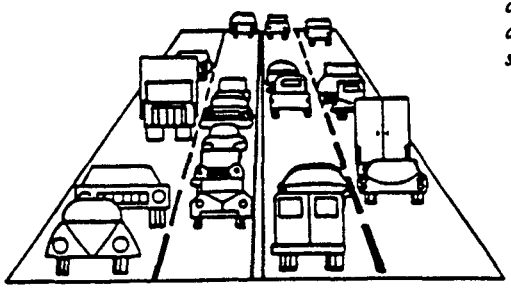
Level of Service B *is a zone of stable flow. However, operating speed is beginning to be restricted by other traffic. Under freeway conditions the density is low, restriction on maneuverability is negligible, and there is a little probability of major reduction in speed or flow rate. This level of service approximates typical design volumes for high type rural highways including freeways.*



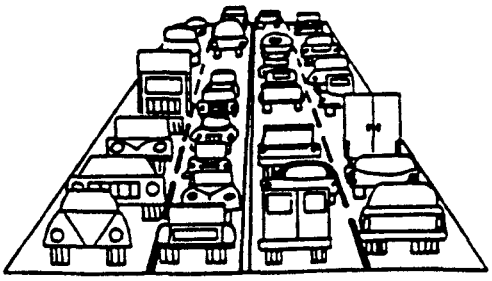
Level of Service C *is still a zone of stable flow but at this volume and density level, most drivers are becoming restricted in their freedom to select speed, change lanes, or pass. Operating speeds are still in the range of 2/3 to 3/4 maximum. Density is from 30 to 35 vehicles per lane mile on freeways. This service level is generally selected as being an appropriate criterion for design purposes, particularly for urban freeways where the cost of providing the higher services levels during peak periods may be prohibitive.*



Level of Service D *approaches unstable flow. Tolerable average operating speeds are maintained but are subject to considerable sudden variation. Freedom to maneuver and driving comfort are low because lane density has increased to between 45 and 50 vpm, and the probability of accidents has increased. Most drivers would probably consider this service level unsatisfactory.*



The upper limit of Level of Service E *is the capacity of the facility. Operation in this zone is unstable, speeds and flow rates fluctuate, and there is little independence of speed selection or ability to maneuver. Since headways are short and operating speeds subject to rapid fluctuation, driving comfort is low and accident potential high. Although circumstances may make operation of facilities under these conditions necessary, it is clearly undesirable and should be avoided whenever feasible.*



Level of Service F *describes forced flow operations after density has exceeded optimum which is normally in the range of 70 to 75 vpm on free flowing facilities. Speed and rate of flow are below the levels attained in zone E and may, for short time periods, drop to zero.*

Source: DKS Associates

Level of Service
Palmdale General Plan

Exhibit 3-26

Roadway Capacity

Table 3-19 presents the roadway capacity analysis for all of the major and minor arterials in the city, and provides the basis for the capacity evaluation of the existing circulation network. Table 3-19 identifies the current geometrics, the facility type, the existing roadway capacity, the existing traffic volumes (described as average daily traffic or ADT), the volume/capacity ratio and the level of service. Roadway segments that operate at unacceptable levels of service (LOS F) are noted with an asterisk. The LOS standards shown for each roadway may vary due to irregularities in the model.

TABLE 3-18

LEVEL OF SERVICE INTERPRETATION

Level of Service	Volume-to-Capacity Ratio
A	0-0.60
B	0.61-0.70
C	0.71-0.80
D	0.81-0.90
E	0.91-1.00
F	Over 1.00

Source: Highway Capacity Manual, Transportation Research Board Special Report No. 209, Washington, D.C.. 1986.

With few exceptions, the City of Palmdale arterial network currently operates at acceptable levels of service. A few arterial segments are currently operating near or above their striped capacity at LOS E or F. These congested segments are located on major arterial sections that have yet to be built to the full major arterial cross-section and are described below.

Palmdale Boulevard, between the Antelope Valley Freeway and 30th Street East, currently operates at LOS E, indicating significant levels of congestion for motorists. This section of Palmdale Boulevard has four through lanes with a paved median island on an 84-foot cross-section. By eliminating on-street parking, this section can be restriped to six through lanes and a median, which would accommodate the traffic. This would improve the operating level to LOS C.

Avenue S, between the Antelope Valley Freeway and Sierra Hwy is currently operating at LOS E. This segment is currently striped for two through lanes and has yet to be built to the full major arterial cross-section.

Pearblossom Highway, between Barrel Springs and 30th Street East, currently operates at LOS F. This segment is currently striped for two through lanes and has yet to be built to the full major arterial cross-section.

S.R. 138, between Avenue T and 120th Street East, is currently operating at LOS E. This facility is striped for total of two through lanes and has yet to be built to the full major arterial cross-section.

Sierra Highway, between Avenue M and Avenue P, which is currently striped for four through lanes, is operating at LOS E.

Sierra Highway, between Pearblossom Highway and the Antelope Valley Freeway, currently operates at LOS F. This segment is striped for four through lanes.

47 Street East, between Fort Tejon Road and Pearblossom Highway, currently operates at LOS E. This segment is currently striped for two through lanes and has yet to be built to the full major arterial cross-section.

47th Street East, between Pearblossom Highway and Barrel Springs Road, is currently operating at LOS F. It is striped for two through lanes.

TABLE 3-19

Level of Service Analysis
Existing Volumes on Existing Network

Roadway	From/To	Striping/ Geometrics	Facility Type	Capacity	Volume	V/C	LOS
EAST-WEST ARTERIALS							
Avenue L	10th St E/20th St E	2 LANES	MAJOR	15,000	140 +	0.01	A
	40th St E/50th St E	2 LANES	MINOR	12,000	130 +	0.01	A
	50th St E/110th St E	2 LANES	MINOR	12,000	230 +	0.02	A
Avenue M	70th St W/60th St W	2 LANES	MAJOR	15,000	2,800 +	0.19	A
	30th St W/Antelope Valley Fwy	2 LANES	MAJOR	15,000	9,000 +	0.60	A
	@ the Antelope Valley Fwy	2 LANES	MAJOR	15,000	9,000 +	0.60	A
	Antelope Valley Fwy/Sierra Hwy	4 LANES	MAJOR	30,000	17,500	0.58	A
	Sierra Hwy/Division St	4 LANES	MAJOR	30,000	19,200	0.64	B
	Division St/10th St E	4 LANES	MAJOR	30,000	19,200	0.64	B
	10th St E/15th St E	4 LANES	MAJOR	30,000	6,800	0.23	A
	15th St E/50th St E	2 LANES	MAJOR	15,000	9,600	0.64	B
Avenue M-8	70th St W/55th St W	2 LANES	MINOR	12,000	1,300	0.11	A
Avenue N	70th St W/60th St W	2 LANES	MINOR	12,000	4,400	0.37	A
	60th St W/30th St W	2 LANES	MAJOR	15,000	4,800	0.32	A
	30th St W/Antelope Valley Fwy	2 LANES	MAJOR	15,000	7,300 +	0.49	A
	Antelope Valley Fwy/10th St W	2 LANES	MAJOR	15,000	7,300 +	0.49	A
	10th St W/Sierra Hwy	2 LANES	MAJOR	15,000	3,100	0.21	A
	2000' W of 40th St E/80th St E	2 LANES	MAJOR	15,000	1,300 +	0.09	A
	80th St E/115th St E	2 LANES	MAJOR	15,000	1,300 +	0.09	A
Avenue N-8	70th St E/80th St E	2 LANES	MINOR	12,000	120 +	0.01	A
Avenue O	30th St W/10th St W	2 LANES	MAJOR	15,000	720 +	0.05	A
	90th St E/110th St E	2 LANES	MAJOR	15,000	120 +	0.01	A
Avenue O-8	20th St W/10th St W	2 LANES	MINOR	12,000	240 +	0.02	A
	8th St E/15th St E	2 LANES	MINOR	12,000	1,200 +	0.10	A
Rancho Vista Blvd	50th St W/S of Ave N	2 LANES	MAJOR	15,000	8,900	0.59	A
	S of Ave N/30th St W	4 LANES	MAJOR	30,000	7,300	0.24	A
Avenue P	30th St W/15th St W	4 LANES	MAJOR	30,000	19,300	0.64	B
	15th St W/10th St W	6 LANES	MAJOR	45,000	19,300	0.43	A
	10th St W/Sierra Hwy	4 LANES	MAJOR	30,000	19,400	0.65	B
	Sierra Hwy/8th St E	4 LANES	MAJOR	30,000	24,700	0.82	D
	8th St E/20th St E	4 LANES	MAJOR	30,000	11,100	0.37	A

+ Estimated Volume, * Unacceptable Level of Service

TABLE 3-19 (continued)
Level of Service Analysis
Existing Volumes on Existing Network

Roadway	From/To	Striping/ Geometrics	Facility Type	Capacity	Volume	V/C	LOS
	20th St E/30th St E	4 LANES	MAJOR	30,000	11,100	0.37	A
	30th St E/50th St E	2 LANES	MAJOR	15,000	5,500	0.37	A
	90th St E/110th St E	2 LANES	MAJOR	15,000	120 +	0.01	A
Avenue P-8	10th St W/Division St	6 LANES	MINOR	36,000	960 +	0.03	A
	Division St/Sierra Hwy	4 LANES	MINOR	24,000	960 +	0.04	A
	8th St E/10th St E	2 LANES	MINOR	12,000	120 +	0.01	A
	40th St E/50th St E	2 LANES	MINOR	12,000	240 +	0.02	A
Avenue Q	Palmdale Blvd/Division St	2 LANES	MINOR	12,000	1,500	0.13	A
	Division St/6th St E	2 LANES	MINOR	12,000	3,200	0.27	A
	Sierra Hwy/20th St E	2 LANES	MAJOR	15,000	7,500	0.50	A
	20th St E/40th St E	2 LANES	MAJOR	15,000	3,400	0.23	A
Elizabeth Lake Rd	Goode Hill Rd/30th St W	2 LANES	MAJOR	15,000	4,600 +	0.31	A
	30th St W/25th St W	2 LANES	MAJOR	15,000	2,900	0.19	A
	25th St W/Foxholm Dr	2 LANES	MAJOR	15,000	2,900	0.19	A
	Foxholm Dr/Palmdale Blvd	4 LANES	MAJOR	30,000	11,500	0.38	A
Palmdale Blvd	Elizabeth Lake Rd/Antelope Valley Fwy	4 LANES	DIVIDED MAJOR	36,000	15,200	0.42	A
	Antelope Valley Fwy/30th St E	4 LANES	DIVIDED MAJOR	36,000	35,400	0.98	E
	30th St E/47th St E	4 LANES	DIVIDED MAJOR	36,000	20,100	0.56	A
	47th St E/70th St E	2 LANES	MAJOR	15,000	12,700	0.85	D
	70th St E/90th St E	2 LANES	MAJOR	15,000	12,700	0.85	D
	90th St E/120th St E	2 LANES	MAJOR	15,000	5,900	0.39	A
Avenue R	Tierra Subida Ave/Division St	2 LANES	MAJOR	15,000	5,600	0.37	A
	Division St/6th St E	2 LANES	MAJOR	15,000	9,500	0.63	B
	6th St E/20th St E	4 LANES	MAJOR	30,000	16,800	0.56	A
	20th St E/30th St E	2 LANES EB, 1 LANE WB	MAJOR	22,500	15,400	0.68	B
	30th St E/47th St E	2 LANES	MAJOR	15,000	12,500	0.83	D
Avenue R-8	Division St/6th St E	2 LANES	MINOR	12,000	1,200 +	0.10	A
	12th St E/25th St E	2 LANES	MINOR	12,000	1,900	0.16	A
	1200' W of 30th St E/1200' E of 35th St E	2 LANES	MINOR	12,000	2,600	0.22	A
	40th St E/1800' E of 47th St E	2 LANES	MINOR	12,000	1,800	0.15	A
Avenue S	City Ranch Bypass/Tierra Subida Ave	2 LANES	MAJOR	15,000	2,600 +	0.17	A
	Tierra Subida Ave/Antelope Valley Fwy	2 LANES	MAJOR	15,000	4,900	0.33	A
	Antelope Valley Fwy/Sierra Hwy	2 LANES	MAJOR	15,000	13,700	0.91	E
	Sierra Hwy/10th St E	2 LANES EB, 1 LANE WB	MAJOR	22,500	13,700	0.61	B

+ Estimated Volume, * Unacceptable Level of Service

TABLE 3-19 (continued)
Level of Service Analysis
Existing Volumes on Existing Network

Roadway	From/To	Striping/ Geometrics	Facility Type	Capacity	Volume	V/C	LOS
	10th St E/15th St E	2 LANES EB, 1 LANE WB	MAJOR	22,500	18,300	0.81	D
	15th St E/25th St E	4 LANES	MAJOR	30,000	18,300	0.61	B
	25th St E/35th St E	4 LANES	MAJOR	30,000	12,900	0.43	A
	35th St E/47th St E	2 LANES	MAJOR	15,000	10,000	0.67	B
	47th St E/3800' E of 47th St E	2 LANES	MAJOR	15,000	1,200 +	0.08	A
Pearblossom Hwy	Sierra Hwy/Barrel Springs Rd	4 LANES	MAJOR	30,000	25,000	0.83	D
	Barrel Springs Rd/30th St E	2 LANES	MAJOR	15,000	17,200	1.15	F
	30th St E/35th St E	4 LANES	MAJOR	30,000	17,200	0.57	A
	35th St E/47th St E	2 LANES	MAJOR	15,000	11,700	0.78	C
	47th St E/Ave T	2 LANES	MAJOR	15,000	11,700	0.78	C
Avenue T	Pearblossom Hwy/90th St E	2 LANES	MAJOR	15,000	11,800	0.79	C
	90th St E/120th St E	2 LANES	MAJOR	15,000	1,300	0.09	A
Barrel Springs Rd	Tierra Subida Ave/Sierra Hwy	2 LANES	MINOR	12,000	720 +	0.06	A
	West of 25th St E/25th St E	2 LANES	MINOR	12,000	6,600 +	0.55	A
	25th St E/Pearblossom Hwy	2 LANES	MINOR	12,000	6,600 +	0.55	A
	Pearblossom Hwy/40th St E	2 LANES	MINOR	12,000	1,200 +	0.10	A
	40th St E/Cheseboro Rd	2 LANES	MINOR	12,000	1,200 +	0.10	A
S. R. 138	Ave T/90th St E	2 LANES	MAJOR	15,000	14,500	0.97	E
	90th St E/120th St E	2 LANES	MAJOR	15,000	14,500	0.97	E

+ Estimated Volume, * Unacceptable Level of Service

TABLE 3-19 (continued)
Level of Service Analysis
Existing Volumes on Existing Network

Roadway	From/To	Striping/ Geometrics	Facility Type	Capacity	Volume	V/C	LOS
NORTH–SOUTH ARTERIALS							
70th St West	Ave M/Ave M–8	2 LANES	MAJOR	15,000	600 +	0.04	A
	Ave M–8/Ave N	2 LANES	MINOR	12,000	1,200 +	0.10	A
60th St West	Ave M/Ave N	2 LANES	MAJOR	15,000	3,300	0.22	A
Godde Hill Rd	60th St West/Elizabeth Lake Rd	2 LANES	MAJOR	15,000	3,300	0.22	A
55th St West	Ave M–8/Ave N	2 LANES	MINOR	12,000	1,700 +	0.14	A
30th St West	Ave M/Ave N	2 LANES	MAJOR	15,000	8,200 +	0.55	A
	Ave N/Ave P	2 LANES	MAJOR	15,000	4,700	0.31	A
	Ave P/Ave P–8	2 LANES	MAJOR	15,000	4,700 +	0.31	A
25th St West	Ave P/Ave P–8	4 LANES	MINOR	24,000	3,200	0.13	A
	Ave P–8/Elizabeth Lake Rd	4 LANES	MINOR	24,000	3,200	0.13	A
20th St West	Ave M/Ave N	2 LANES	MAJOR	15,000	3,400 +	0.23	A
	Ave N/Ave P	2 LANES	MAJOR	15,000	1,300 +	0.09	A
15th St West	Ave N/Ave O	2 LANES	MINOR	12,000	360 +	0.03	A
	Ave O/Ave O–8	2 LANES	MINOR	12,000	360 +	0.03	A
	Ave O–8/Ave P–8	2 LANES	MINOR	12,000	360 +	0.03	A
10th St West	Ave M/Ave N	2 LANES	MAJOR	15,000	10,300	0.69	B
	Ave N/Ave O–8	2 LANES	MAJOR	15,000	10,000	0.67	B
	Ave O–8/Ave P	4 LANES	MAJOR	30,000	10,000	0.33	A
	Ave P/Palmdale Blvd	4 LANES	MAJOR	30,000	11,600	0.39	A
Tierra Subida Avenue	Palmdale Blvd/Ave R	4 LANES	MAJOR	30,000	5,600	0.19	A
	Ave R/Ave S	2 LANES	MAJOR	15,000	4,900	0.33	A
	Ave S/Barrel Springs Rd	2 LANES	MINOR	12,000	800	0.07	A
5th St West	Ave P–8/Palmdale Blvd	6 LANES	MINOR	30,000	4,700	0.16	A
	Palmdale Blvd/Tierra Subida Ave	4 LANES	MINOR	24,000	4,700	0.20	A
Division Street	1500' N of Ave Q/Ave R	2 LANES	MAJOR	15,000	5,300 +	0.35	A
	Ave R/Ave R–8	2 LANES	MINOR	12,000	1,000 +	0.08	A
5th St East	Ave Q/Palmdale Blvd	2 LANES	MINOR	12,000	2,200 +	0.18	A

+ Estimated Volume, * Unacceptable Level of Service

TABLE 3-19 (continued)
Level of Service Analysis
Existing Volumes on Existing Network

Roadway	From/To	Striping/ Geometrics	Facility Type	Capacity	Volume	V/C	LOS
	Palmdale Blvd/Ave R-8	2 LANES	MINOR	12,000	2,200 +	0.18	A
	Ave R-8/Ave S	2 LANES	MINOR	12,000	2,200 +	0.18	A
6th St East	Sierra Hwy/Palmdale Blvd	2 LANES	MINOR	12,000	2,400 +	0.20	A
	Palmdale Blvd/Ave R	4 LANES	MINOR	24,000	3,600 +	0.15	A
Sierra Highway	Ave M/Ave P	4 LANES	MAJOR	30,000	27,300	0.91	E
	Ave P/Ave Q	4 LANES	MAJOR	30,000	15,300	0.51	A
	Ave Q/Palmdale Blvd	4 LANES	MAJOR	30,000	15,300	0.51	A
	Palmdale Blvd/Ave R-8	4 LANES	MAJOR	30,000	11,800	0.39	A
	Ave R-8/Ave S	2 LANES	MAJOR	15,000	7,900	0.53	A
	Ave S/1200' S of Ave S	2 LANES	MAJOR	15,000	5,700	0.38	A
	1200' S of Ave S/3000' N of Barrel Springs Rd	4 LANES	MAJOR	30,000	5,000	0.17	A
	3000' N of Barrel Springs Rd/Pearblossom Hwy	2 LANES	MAJOR	15,000	5,000	0.33	A
	Pearblossom Hwy/Antelope Valley Fwy	4 LANES	MAJOR	30,000	31,000	1.03	F
10th St East	Ave L/Ave M	2 LANES	MAJOR	15,000	8,800	0.59	A
	Ave P/Palmdale Blvd	2 LANES	MAJOR	15,000	3,800	0.25	A
	Palmdale Blvd/Ave R-8	4 LANES	MAJOR	30,000	7,600	0.25	A
	Ave R-8/Ave S	2 LANES	MAJOR	15,000	4,200	0.28	A
15th St East	Ave P/Palmdale Blvd	2 LANES	MINOR	12,000	1,600 +	0.13	A
	Palmdale Blvd/Ave R	2 LANES	MINOR	12,000	3,600 +	0.30	A
20th St East	Ave L/Ave M	2 LANES	MAJOR	15,000	2,300 +	0.15	A
	Ave P/Ave Q	2 LANES	MINOR	12,000	7,200	0.60	A
	Ave Q/Palmdale Blvd	4 LANES	MINOR	24,000	7,200	0.30	A
	Palmdale Blvd/Ave S	2 LANES	MAJOR	15,000	7,800	0.52	A
25th St East	Ave P/Ave Q	2 LANES	MAJOR	15,000	6,100	0.41	A
	Ave Q/Ave R-8	4 LANES	MAJOR	30,000	13,800	0.46	A
	Ave R-8/Ave S	4 LANES	MAJOR	30,000	13,200	0.44	A
	Ave S/4200' S of Ave S	4 LANES	MINOR	24,000	12,300	0.51	A
	4200' S of Ave S/Barrel Springs Rd	2 LANES	MINOR	12,000	12,300	1.03	F
30th St East	Ave L/Ave M	2 LANES	MAJOR	15,000	1,400 +	0.09	A
	Ave P/Ave Q	2 LANES	MAJOR	15,000	5,300	0.35	A
	Ave Q/Palmdale Blvd	4 LANES	MAJOR	30,000	7,700	0.26	A
	Palmdale Blvd/1300' S of Palmdale Blvd	4 LANES	MAJOR	30,000	11,400	0.38	A
	1300' S of Palmdale Blvd/Ave R	1 LANE NB, 2 LANES SB	MAJOR	22,500	11,400	0.51	A
	Ave R/1000' S of Ave R	4 LANES	MAJOR	30,000	6,400	0.21	A

+ Estimated Volume, * Unacceptable Level of Service

TABLE 3-19 (continued)
Level of Service Analysis
Existing Volumes on Existing Network

Roadway	From/To	Striping/ Geometrics	Facility Type	Capacity	Volume	V/C	LOS
	1000 S of Ave R/600' N of Ave R-8	4 LANES	MAJOR	30,000	6,400	0.21	A
	600' N of Ave R-8/Ave R-8	4 LANES	MAJOR	30,000	6,400	0.21	A
	Ave R-8/Ave S	4 LANES	MAJOR	30,000	6,400	0.21	A
	Ave S/1600' S of Ave S	4 LANES	MAJOR	30,000	1,000 +	0.03	A
35th St East	Ave Q/Palmdale Blvd	2 LANES	MINOR	12,000	3,000 +	0.25	A
	1200' N of Ave R/Ave R	2 LANES	MINOR	12,000	70 +	0.01	A
	Ave R/Ave S	2 LANES	MINOR	12,000	1,200 +	0.10	A
	Ave S/1600' S of Ave S	4 LANES	MINOR	24,000	600 +	0.03	A
40th St East	Ave L/Ave M	2 LANES	MAJOR	15,000	450 +	0.03	A
	Ave N/Ave P	2 LANES	MAJOR	15,000	3,600 +	0.24	A
	Ave P/Palmdale Blvd	2 LANES	MAJOR	15,000	2,200	0.15	A
	Palmdale Blvd/Ave S	2 LANES	MAJOR	15,000	3,300	0.22	A
	Ave S/Pear Blossom Hwy	2 LANES	MAJOR	15,000	3,600	0.24	A
	Pear Blossom Hwy/Barrel Springs Rd	2 LANES	MINOR	12,000	1,200 +	0.10	A
47th St East	Palmdale Blvd/Ave S	4 LANES	DIVIDED MAJOR	36,000	16,900	0.47	A
	Ave S/Fort Tejon Rd	4 LANES	DIVIDED MAJOR	36,000	16,900	0.47	A
	Fort Tejon Rd/Pearblossom Hwy	2 LANES	MAJOR	15,000	14,000	0.93	E
	Pearblossom Hwy/Barrel Springs Rd	2 LANES	MINOR	12,000	14,500	1.21	F
Fort Tejon Rd	47th St E/Pearblossom Hwy	4 LANES	MAJOR	30,000	3,000	0.10	A
50th St East	Ave L/Ave M	2 LANES	MAJOR	15,000	4,200 +	0.28	A
	Ave M/Ave P	2 LANES	MAJOR	15,000	7,000	0.47	A
	Ave P/Palmdale Blvd	2 LANES	MAJOR	15,000	6,400	0.43	A
60th St East	Ave L/Ave N	2 LANES	MINOR	12,000	120 +	0.01	A
70th St East	Ave L/Ave N	2 LANES	MAJOR	15,000	200 +	0.01	A
	Ave N/Palmdale Blvd	2 LANES	MAJOR	15,000	200	0.01	A
90th St East	Ave L/Ave N	2 LANES	MAJOR	15,000	3,800 +	0.25	A
	Ave N/Palmdale Blvd	2 LANES	MAJOR	15,000	6,100 +	0.41	A
	Palmdale Blvd/Ave S	2 LANES	MAJOR	15,000	5,500 +	0.37	A
	Ave S/Ave T	2 LANES	MAJOR	15,000	5,500 +	0.37	A
	Ave T/S.R. 138	2 LANES	MAJOR	15,000	5,500 +	0.37	A
	S.R. 138/Fort Tejon Rd	2 LANES	MINOR	12,000	480 +	0.04	A
110th St East	Ave N/Ave S	2 LANES	MINOR	12,000	1,100 +	0.09	A

+ Estimated Volume, * Unacceptable Level of Service

TABLE 3-19 (continued)
Level of Service Analysis
Existing Volumes on Existing Network

Roadway	From/To	Striping/ Geometrics	Facility Type	Capacity	Volume	V/C	LOS
STATE ROUTE 14	Ave L/Ave N	6 LANES		120,000	63,300 +	0.53	A
	Ave N/Ave P	6 LANES		120,000	59,800 +	0.50	A
	Ave P/Palmdale Blvd	4 LANES		80,000	55,200 +	0.69	B
	Palmdale Blvd/Ave S	4 LANES		80,000	49,500 +	0.62	B
	Ave S/Los Angeles Forest Hwy	3 LANES SB, 2 LANES NB		100,000	50,500 +	0.51	A
	Los Angeles Forest Hwy/Crown Valley Rd	3 LANES SB, 2 LANES NB		100,000	74,800 +	0.75	C

+ Estimated Volume, * Unacceptable Level of Service

Intersection Capacities

Intersection capacities were analyzed using turning movement volumes obtained from actual counts taken during the months of August and September 1989. Forty-seven intersections were analyzed for the evaluation of existing capacities. All of the 47 study intersections operated at LOS D or better. A few intersections may be characterized as approaching the maximum acceptable OS value, LOS E.

The intersection of Pearblossom Highway and Avenue T operates at LOS D (V/C = 0.84) during the a.m. peak hour, and the intersection of Palmdale Boulevard and 30th Street East operates at LOS D (V/C = 0.87) during the p.m. peak hour. Continued monitoring of future growth along these intersections will facilitate implementation of appropriate mitigation strategies at specific times. The City's Traffic Impact Fee Assessment and Master Traffic Level Maintenance Plan identifies various links as candidate locations for this funding strategy.

Connectivity Evaluation of Palmdale's Circulation System

The City of Palmdale's circulation system has for the most part developed around a grid system in which major arterials are spaced approximately every mile and minor arterials are spaced every half-mile between the major arterials. As the capacity evaluation shows, this pattern appears to be providing a solid foundation for serving the community's mobility needs. The majority of the arterial segments are currently operating at LOS D or better, which indicates good traffic flow.

There are, however, many missing segments in the street pattern that currently result in connectivity problems, some of which will contribute to capacity problems in the future, as the City's population and traffic increase. These discontinuous arterials were previously discussed in Section 3.9.2, Description of Existing Circulation System.

As the Planning Area develops, it is planned that the majority of the major and minor arterials will be made continuous throughout the limits of the City. The following arterials are currently continuous along their entire

length within the City: Avenue L, Avenue M, Palmdale Boulevard, Pearblossom Highway/Avenue T, 60th Street West, 30th Street West, 20th Street West, 10th Street West/Tierra Subida Avenue, Sierra Highway, 47th/50th Street East, 90th Street East, and 110th Street East.

Several arterials are not planned to be or cannot be continuous because they intercept the United States Air Force Plant 42 area or the proposed Palmdale Regional Airport site. These arterials include Avenues N through Q, 10th through 40th Streets East, and 60th through 80th Street East.

3.9.4 EXISTING PUBLIC TRANSIT SERVICES

Bus Service

Fixed Route Bus Service

The bus transit route system in Palmdale has been revised in response to significant changes in land use patterns and populations. Bus service within the City of Palmdale is provided through the Antelope Valley Transit Authority (AVTA) which is a joint powers agency composed of members from the City of Palmdale, the City of Lancaster, and Los Angeles County. The AVTA recently completed a five-year plan for service within the Antelope Valley, the Antelope Valley Transit Need Plan. They are currently developing a ten-year transit plan for the area.

Responsible for overseeing bus services, including service provider, routes, schedules, and hours of operation, AVTA recently awarded the service contract to DAVE Transportation Services. Service includes 15 buses in service and 5 buses in reserve. Weekday service includes five core urban routes and four supplemental routes. Supplemental routes or additional buses are used during morning and afternoon hours on school routes. Students are using buses to travel to and from school causing extra service to be required during limited hours. Saturday service will include five core routes in the urban area. Existing bus routes are illustrated in Exhibit 3-27.

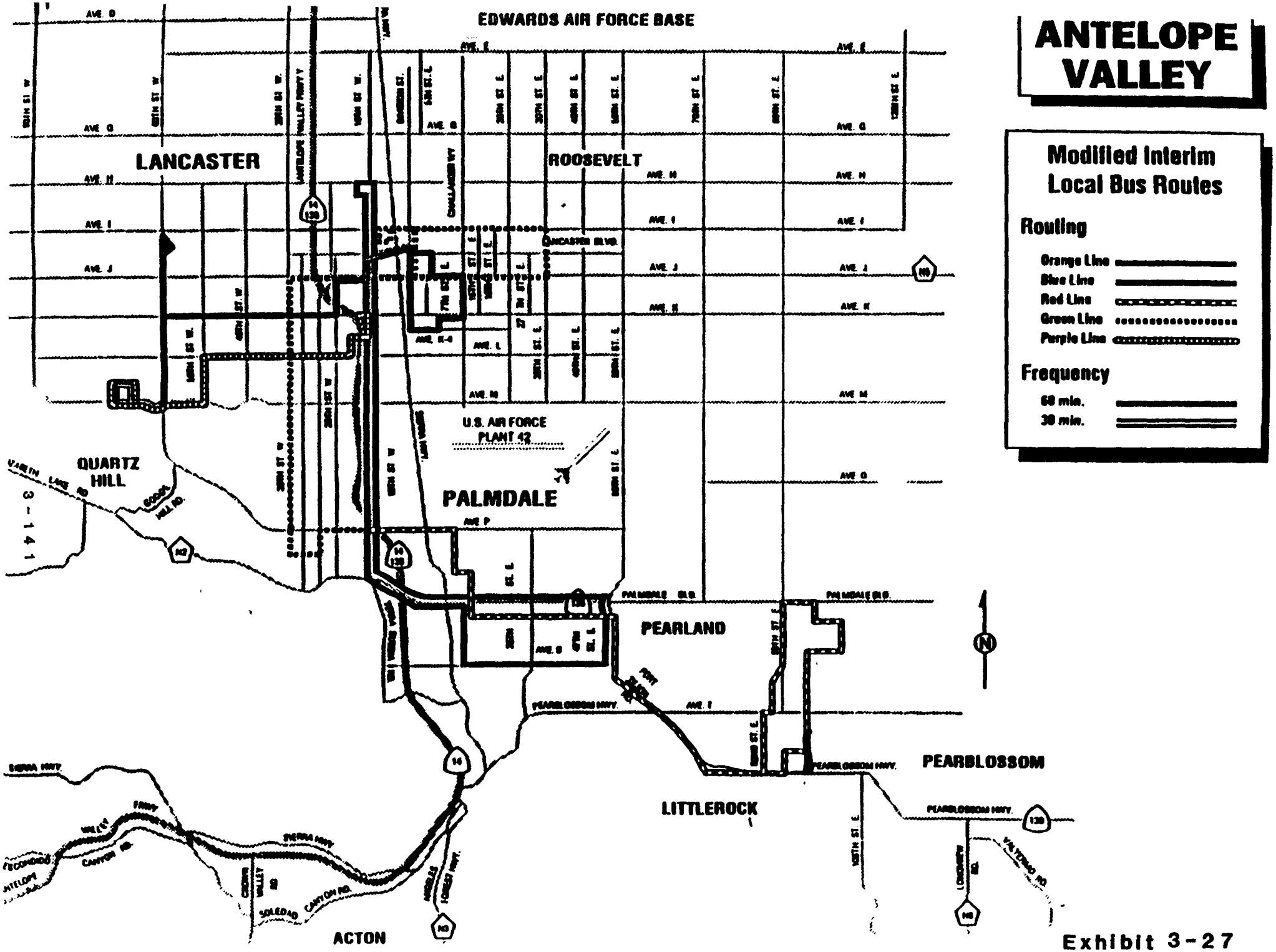

ANTELOPE VALLEY
Modified Interim Local Bus Routes
Routing
Orange Line
Blue Line
Red Line
Green Line
Purple Line
Frequency
60 min.
30 min.
EDWARDS AIR FORCE BASE
LANCASTER
ROOSEVELT
QUARTZ HILL
PALMDALE
U.S. AIR FORCE PLANT 42
PEARLAND
LITTLEROCK
PEARBLOSSOM
ACTON
LANCASTER BLVD.
PALMDALE BLVD.
PEARBLOSSOM HWY.
SIERRA HWY.
SOLEDAD CANYON RD.
AVE. P
AVE. Q
AVE. R
AVE. S
AVE. T
AVE. M
AVE. L
AVE. K
AVE. J
AVE. I
AVE. H
AVE. G
AVE. F
AVE. E
AVE. D
3-141

Exhibit 3-27

Bus frequency is two bus trips per hour on inter-city routes. Service hours are from 5:30 to 8:00 p.m. on weekdays and 8:30 a.m. to 6:00 p.m. on Saturday. This level of bus service represents a considerable improvement of service levels before 1992 in terms of geographic coverage, frequency of service, and span of service. Total hours of service has almost doubled over 1991 levels.

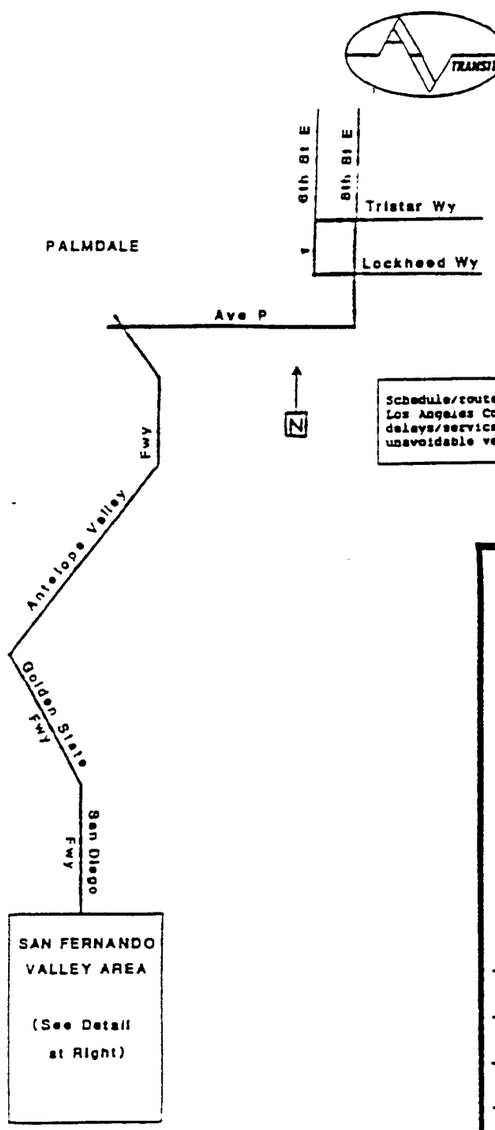
The five fixed routes serve many of the major thoroughfares in Lancaster and Palmdale. Three of the five routes either terminate or pass through the Antelope Valley Mall, which functions as a focal point for local service. Route locations are shown on Exhibit 3-27.

Dial-A-Ride Bus Service

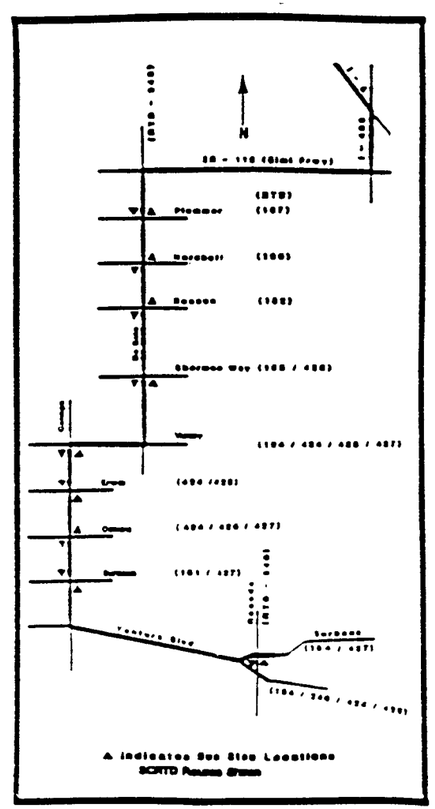
Dial-a-Ride service is provided by DAVE Transportation Services, which operates 13 vans in service and 2 vans in reserve. Services are offered to disabled persons and senior citizens (age 62 and older) with priority given to persons determined to be eligible for ADA paratransit, between 5:30 a.m. and 8:00 p.m. on weekdays and between 8:30 a.m. and 6:00 p.m. on Saturdays. On Sundays, Dial-A-Ride services are available to the general public residing within the service area. Outside the service area, capacity-constrained service is available to the general public on weekdays between 7:30 a.m. and 6:00 p.m. The service area boundary is shown on Exhibit 3-28.

Along with its expansion of fixed route and commuter bus service, AVTA increased service levels for Dial-A-Ride service. The service area was extended to the same area served by the fixed-route system, over the same operating hours, and complies with the requirements of the 1990 Americans with Disabilities Act. The service was also extended for the first time to rural areas of the Antelope Valley, including Acton, Lake Los Angeles, and Lake Hughes. Total service hours increased 300 percent over 1991 levels.

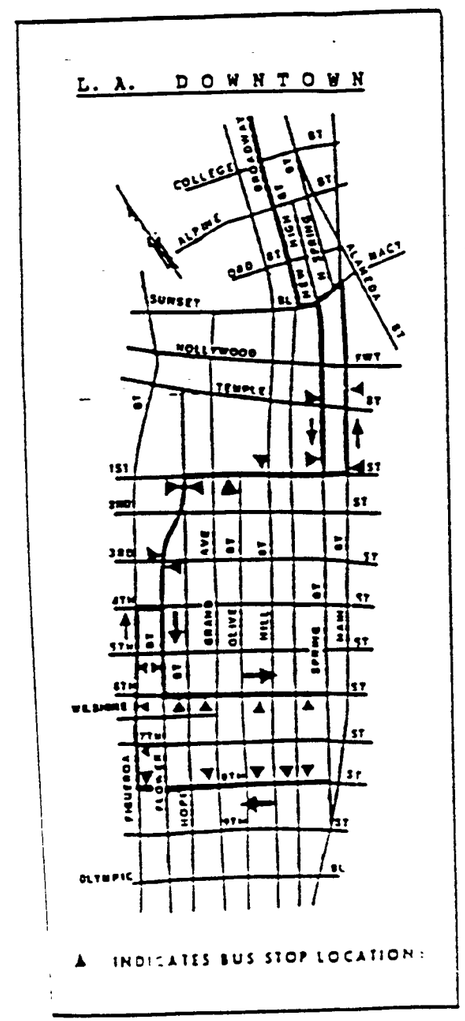
Map of Route 787

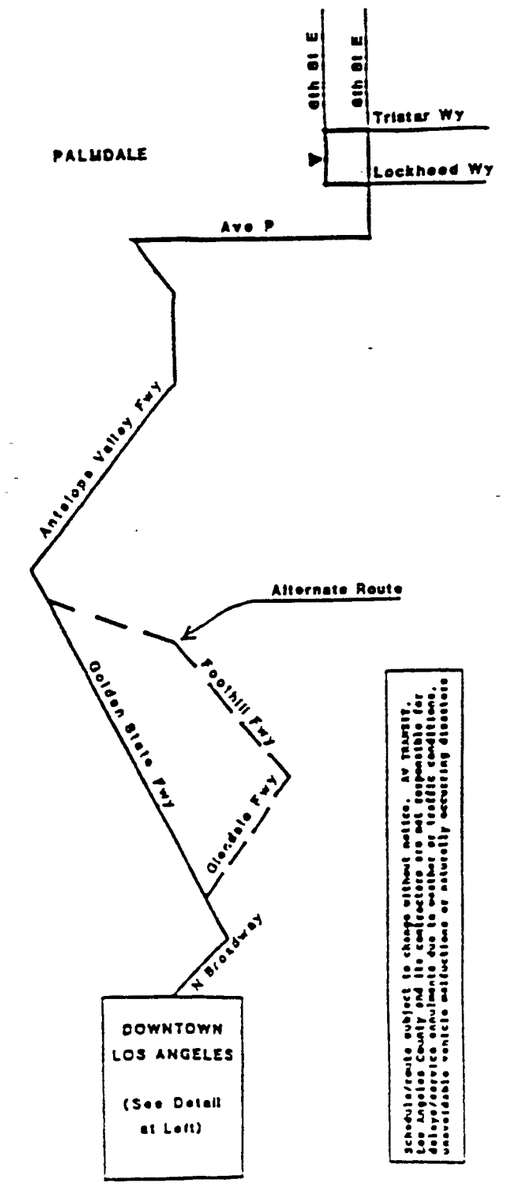


Schedule/route subject to change without notice. AV TRANSIT, Los Angeles County and its contractors are not responsible for delays/service annulments due to weather or traffic conditions, unavoidable vehicle malfunctions or naturally occurring disasters.



Map of Route 785





Schedule/route subject to change without notice. AV TRANSIT, Los Angeles County and its contractors are not responsible for delays/service annulments due to weather or traffic conditions, unavoidable vehicle malfunctions or naturally occurring disasters.

ANTELOPE VALLEY

PROPOSED DIAL-A-RIDE

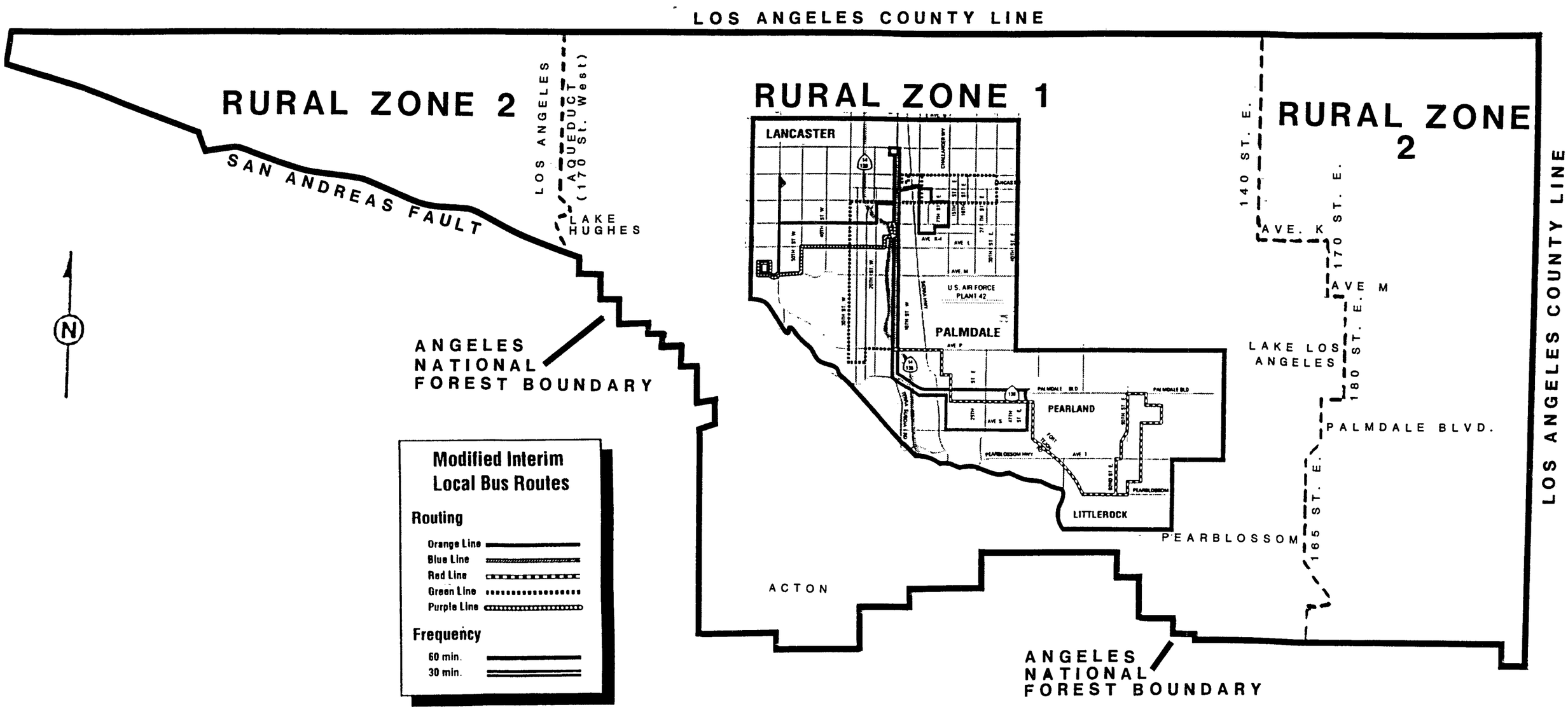


Exhibit 3-28

Intercity Bus Service

DAVE Transportation Services also operates two commuter bus lines between Palmdale and central Los Angeles and the San Fernando Valley. Nine buses are in service with two in reserve. The service operates on Monday through Friday, with seven trips to downtown Los Angeles on Route 785 and two trips to the San Fernando Valley on Route 787. Routes are shown on Exhibit 3-29.

Service is available in the morning from 4:30 a.m. to 6:00 a.m. for trips to Los Angeles and the San Fernando Valley, and in the afternoon for return trips to Palmdale from 3:30 p.m. to 5:30 p.m.

Under the administration of AVTA, commuter bus service was expanded substantially in 1992. The seven existing service runs will increase to nine as ridership increases. Total service hours in 1992 were increased 50 percent over 1991 service levels.

In addition to AVTA services, Greyhound Lines provides bus service to Palmdale and Lancaster, primarily as intermediate stops along routes heading toward central or northern California, or Los Angeles. Service is limited to two trips in each direction, and tickets have to be purchased from the driver. A limited number of Palmdale residents use this service as a commuter bus to get to and from work in areas such as downtown Los Angeles.

Antelope Valley Airport Express offers a reservation-only scheduled van between Antelope Valley and Los Angeles, as well as similar service to airports.

Commuter Van Service and Carpools

Commuter Transportation Services (CTS) is a private non-profit ridesharing organization that provides ridesharing services throughout Los Angeles, Ventura, Orange, San Bernadino, and Riverside counties. TS is funded primarily by Caltrans, the Southern California Association of Governments (SCAG), San Bernardino Associated Governments, Ventura County Association of Governments, and the Transportation Commission of Los Angeles, Orange, and Riverside Counties. Funding contributions are also made by the City of Los Angeles and more than 1,000 companies which use CTS.

CTS operates 86 vans which serve vanpoolers in the Palmdale area who travel south to communities in the San Fernando Valley and Los Angeles. Each van seats between 12 and 15 passengers.

CTS estimates that 21 percent of the Antelope Valley commuters are using vanpool services. This is higher than the region-wide average of 17 percent of commuters who are using vanpools. CTS continues to organize additional vanpools as the commuting population increases.

CTS also organizes carpools for commuters and estimates that 5 percent of the Antelope Valley commuters carpool. The City encourages carpooling by providing park-and-ride lots. Developers and employers are also providing park-and-ride lots in convenient locations for commuting. Currently there are City of Palmdale park-and-ride lots located at Avenue S and the Antelope Valley Freeway (700 spaces), and on Sierra Highway near the Antelope Valley Freeway (300 spaces). In addition, developers or employers have provided park-and-ride lots at Avenue P near the Antelope Valley Freeway in the Walmart store parking lot (200 spaces) and the Target store parking lot (52 spaces), and on Avenue P in the Lockheed facility parking lot (133 spaces). Additional park-and-ride spaces will be provided within the City as need and funding sources are identified.

Paratransit Services

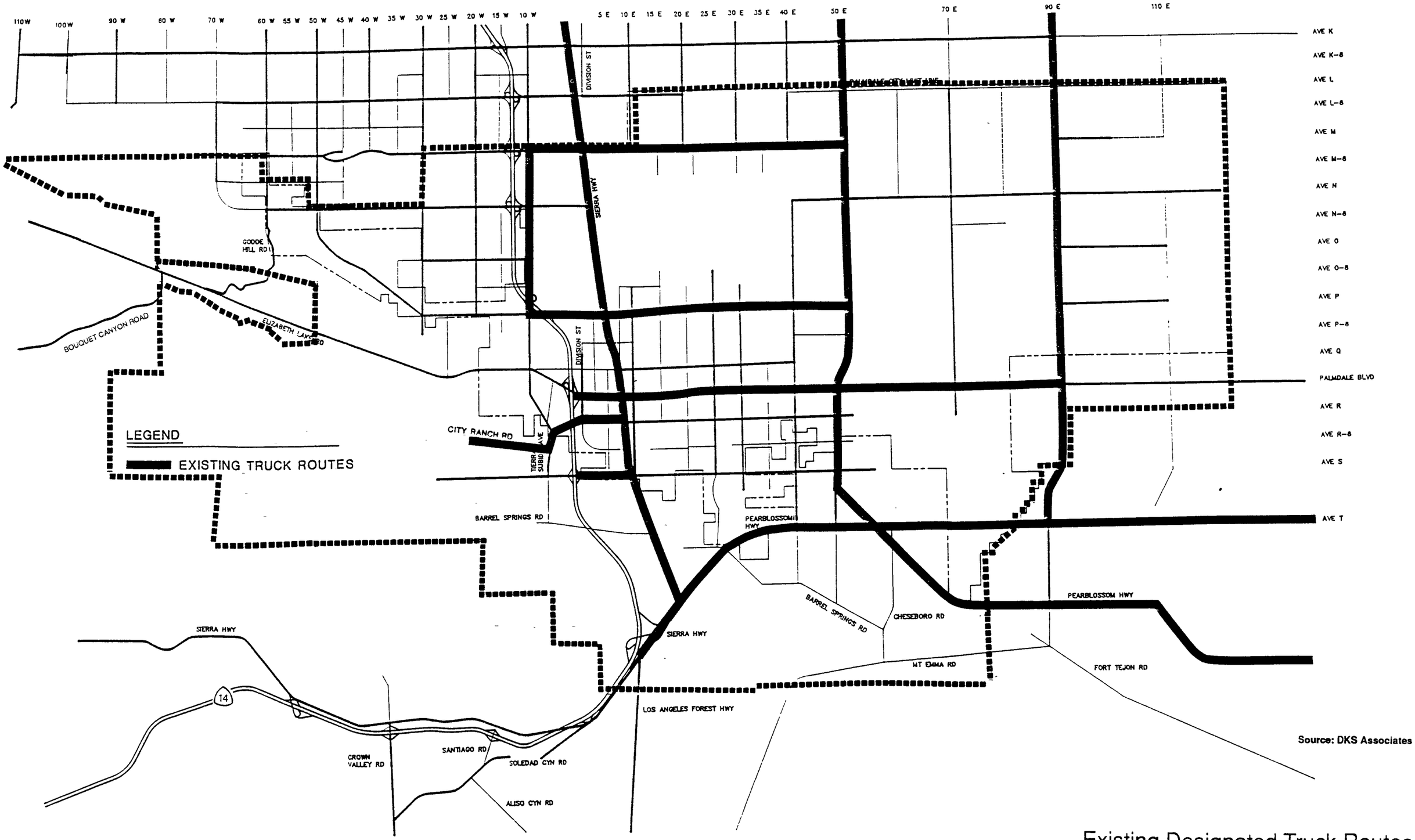
Senior and transportationally-handicapped paratransit service in Palmdale is provided by four nonprofit organizations with county and/or state funding and two private companies. Service providers include the following:

- Antelope Valley Committee on Aging (Public)
- Los Angeles County Community and Senior Citizen Services Department (Public)
- North Los Angeles County Regional Center (Public)
- Independent Senior Center (Public)
- Mediride (Private)
- Antelope Valley Taxi (Private)

Truck Routes

In December 1991, the Palmdale City Council adopted Ordinance No. 953, establishing truck routes within the City of Palmdale. The Ordinance regulates vehicles exceeding 10,000 pounds gross weight and prohibits their use on undesignated City streets, except when delivering or otherwise servicing uses on such streets. Designated truck routes include the following (see Exhibit 3-30):

- 10th Street West from Avenue P to Avenue M
- Sierra Highway from the Antelope Valley Freeway to Avenue M
- 50th Street East from Palmdale Boulevard to Avenue M
- Avenue M from the Antelope Valley Freeway to 50th Street East
- Avenue P from 10th Street West to 50th Street East
- City Ranch Road, Tierra Subida, Rayburn Road, and Avenue R from the Palmdale Dump to Sierra Highway
- Avenue S from the Antelope Valley Freeway to Sierra Highway
- Pearblossom Highway from Sierra Highway to Fort Tejon Road
- Avenue T from Fort Tejon Road to 90th Street East



Source: DKS Associates

Existing Designated Truck Routes
Palmdale General Plan

Exhibit 3-30

Additional truck routes may be needed to serve the access needs of the eastside Mineral Resource Extraction Area (MRE), particularly for that portion north of the railroad tracts. Establishing truck routes connecting this area to Avenue T or Palmdale Boulevard could prevent quarry trucks from using Avenue R, Avenue R-8, and Avenue S as primary access routes.

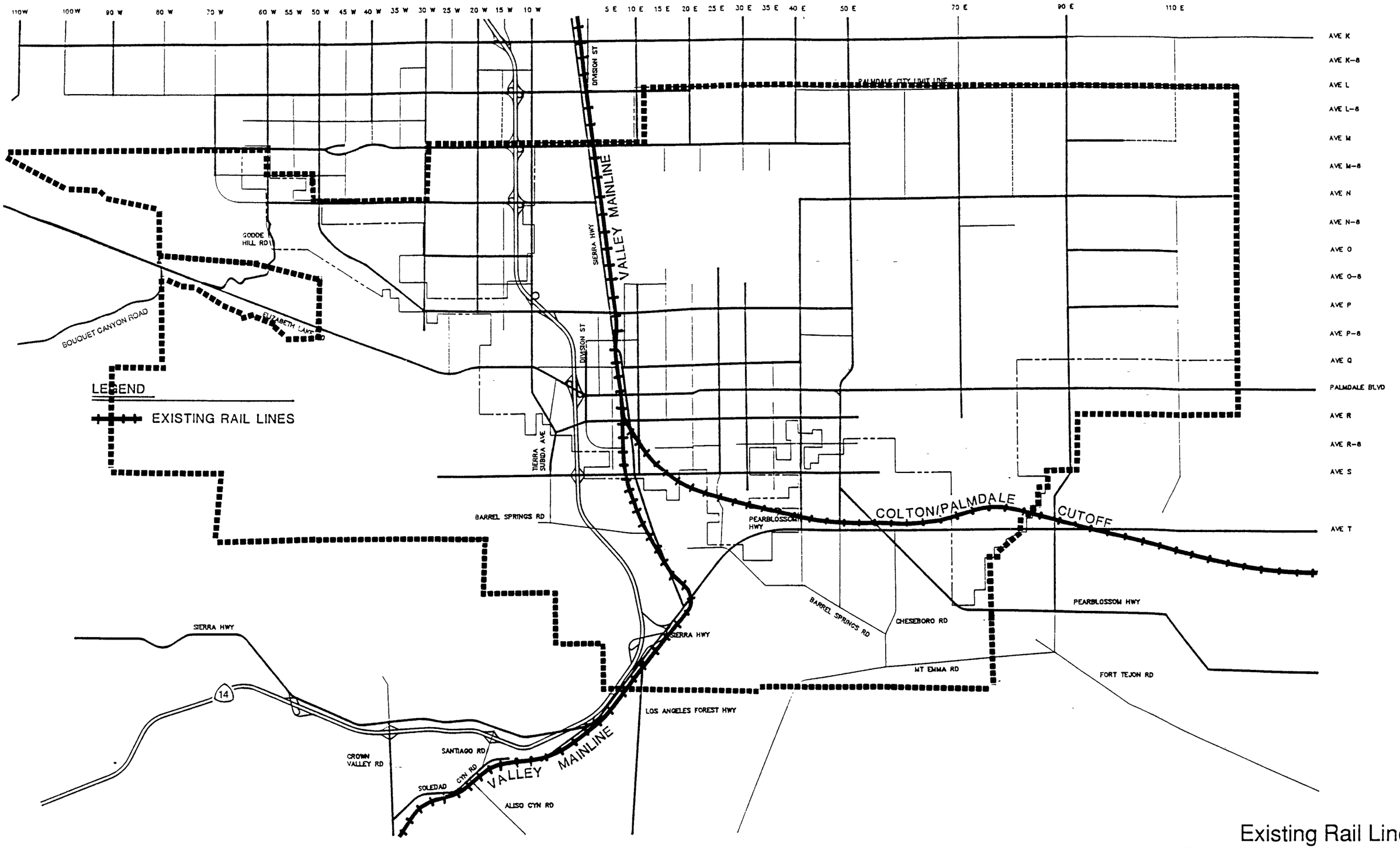
Rail Service

The Southern Pacific Railroad Company operates two rail lines through the City of Palmdale. The Valley Mainline runs north-south and operates adjacent to Sierra Highway. The Colton/Palmdale Cutoff branches from the Valley Mainline south of Avenue R and runs east toward the Cajon Pass in San Bernardino County, where it continues to the Cities of San Bernardino and Colton. The rail lines are illustrated in Exhibit 3-31.

Trains run 24 hours a day on these two lines, with approximately 14 to 16 trains daily around the clock. The peak volume of train traffic occurs during the early morning hours between 1:00 a.m. and 5:00 a.m. Another fleet is run in the afternoon and evening hours, while mid-day schedules vary daily. Sunday traffic is light, but rail activity is heavy during the rest of the week.

All rail traffic through Palmdale is used for freight. There is currently no passenger rail service offered, and a Southern Pacific representative has indicated that there are no future plans for passenger service. Freight traffic does not run on a regular schedule, but trains are called up as crews and power become available. Customers are informed when their goods arrive. The Palmdale rail facilities are under the supervision of a yardmaster located in Mojave. Palmdale contains a maintenance office charged with maintenance of the tracks throughout the City.

Future long-range regional plans call for a high-speed rail line connecting the Palmdale Regional Airport to Los Angeles International Airport (LAX). The Los Angeles County Transportation Commission (LACTC) has included this line in its 30-year regional transportation plan, and the City of Los Angeles Department of Airports, which owns Palmdale Regional airport and the surrounding 17,000 acres of land, is promoting the concept. Phase 1 of the project calls for extending the high-speed rail line from LAX to Sylmar, while Phase 2 would complete the line from Sylmar to Palmdale. Within the Palmdale Planning Area, the line is proposed



Existing Rail Lines
Palmdale General Plan

Exhibit 3-31

to extend along the median strip of Highway 14 to Avenue P-8, then head westerly to the airport complex within the right-of-way of the future 138 freeway. Stations are proposed to be located at the interchange of Avenue S and Highway 14, and at the airport. LACTC has issued a Request for Proposals for design, financing and construction of this line. However, no firm dates have been established for completion of either phase. Construction will undoubtedly be closely tied with expansion of the Palmdale airport facilities.

Another future rail service within Palmdale will be Metro-Link, a commuter rail service. By the fall of 1992, service will connect the City of Santa Clarita to Union Station in Los Angeles, and the feasibility of extending service to Palmdale is currently being studied. Metro-Link uses existing railroad lines and purchases the right to run trains on them. Cars would run in peak commute periods.

Until Metro-Link is extended to Palmdale, a trial commuter bus run will be made from Palmdale to the rail station in Santa clarita. This demonstrator "feeder line" will be run for a 6 to 12 month period, and evaluated for its ability to attract and serve commuters to Los Angeles employment centers. The likelihood of commuters transferring from a commuter bus to a commuter train and possibly to a third public transit mode in Los Angeles is unknown at this time.

Air Service

The large tract of land bounded by Avenue M to the north, Avenue Q to the south, 50th Street East to the west, and 90th Street East to the east, is the site of the proposed Palmdale Regional Airport and is unincorporated, City of Los Angeles Department of Airports property. This 17,000 acre site is surrounded by City of Palmdale land. Long-range plans call for development of a regional airport at the site, which would be linked to LAX by a high speed rail line and by a new freeway linking Highway 14 to the site along an alignment following Avenue P-8.

Although the City of Los Angeles Department of Airports has not constructed landing facilities at this time, it has an agreement with U.S. Air Force Plant 42 to use Air Force landing strips for up to 50 operations per day. A representative of Skywest, the commercial airline serving Palmdale, states that seven commercial flights per day currently use the facilities: six daily flights to LAX and one daily flight to Palm Springs.

The Department of Airports is under the jurisdiction of a commission. The Airport Commission has negotiated an agreement with the Air Force to increase usage for up to 200 flights per day; however, the agreement is subject to environmental review prior to execution of the agreement. South Coast Air Quality Management District regulations require air quality permits for the airport, which may delay the planned expansion of use.

Current airport use in Palmdale, as of March 1992, is summarized as follows:

- Number of passengers served: 2,362
- Number of air carrier flights (over 12,500 lbs): 216
- Number of air taxi flights (under 12,500 lbs): 470
- Number of military flights: 3,990
- Number of general aviation flights (private jets, small propeller driven aircraft, corporate jets): 1,175

3.9.5 OTHER TRANSPORTATION/CIRCULATION ISSUES

Bicycles

The City of Palmdale has striped bicycle lanes on some of its streets, primarily in areas where sufficient pavement is available and not needed for automobile use. Lanes are currently striped on:

- Avenue R between 20th and 30th Streets East
- 60th Street West north of the California Aqueduct
- 30th Street East between Palmdale Boulevard and Avenue R

The California Aqueduct Bikeway is located just south of the Palmdale City limits alongside the California Aqueduct. The California Aqueduct Bikeway has been developed on the paved service roads which run beside the Aqueduct sections of the State Water Project. It is available to bicycles and hikers; motor vehicles are not permitted. The bikeway can be entered from any bikeway parking area, or from any road which crosses the Aqueduct. Rest stops with restrooms, picnic tables, drinking water, and shaded areas are placed along the bikeway in the Antelope Valley at approximately 10-mile intervals.

There is currently ongoing channel construction that has necessitated closing the bikeway for the past several years. The construction is planned to continue and there is currently no schedule for reopening the bikeway. The bicycle routes are illustrated in Exhibit 3-32.

Equestrian Trails

The Angeles National Forest, located south and west of Palmdale, contains dozens of miles of equestrian trails. Some of these trails extend east into San Bernardino County while others extend north into Kern County.

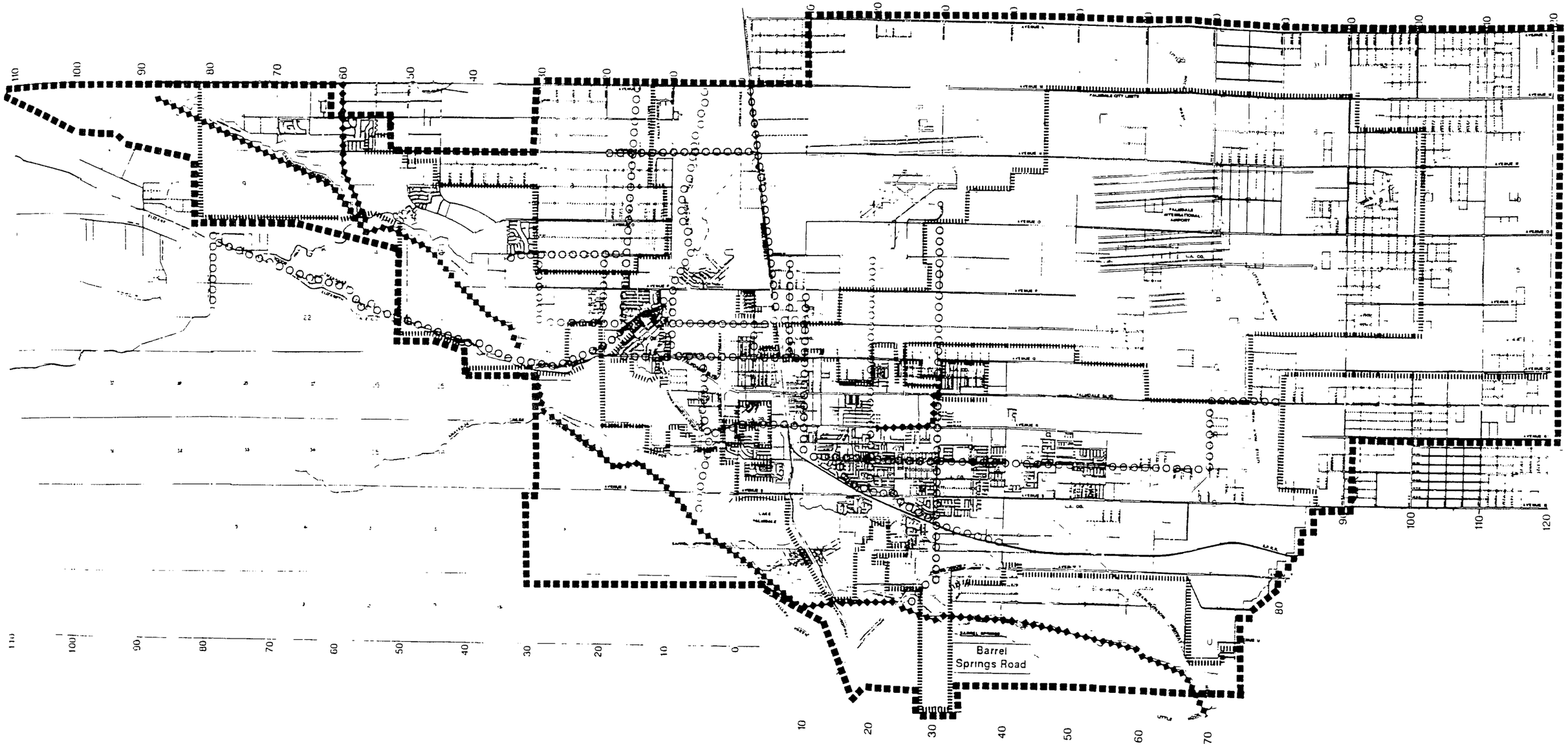
A few equestrian trails pass through the southern limits of the City. One trail follows Barrel Springs Road near SR-14 and Sierra Highway. Another trail extends north and south from Elizabeth Lake Road near the California Aqueduct. A third equestrian trail extends southwest from Barrel Springs Road near 40th Street East. All these trails connect with others that extend into San Bernardino and Kern Counties.

Congestion Management Plan

The Congestion Management Program (CMP) was enacted by the state legislature in 1989 to improve traffic congestion in California's urbanized areas. The program became effective with the passage of Proposition III in June 1990, which increased the state gas tax by nine cents per gallon over a five year period. The increase in funds generated by Proposition III will be available to cities and counties for regional road improvements, provided that they are in compliance with CMP requirements. If a city does not comply with the CMP, it could lose funding under Proposition III.

Under the program, regional agencies are designated within each county to prepare and administer the CMP. In Los Angeles County, the Congestion Management Agency is the Los Angeles County Transportation Commission (LACTC). LACTC is in the process of drafting the countywide Congestion Management Plan and preparing an Environmental Impact Report for the Plan. When completed, the CMP will be submitted to SCAG, which will determine the Plan's consistency with the Regional Mobility Plan.

insert exhibit 3-32



Michael Brandman Associates

North

0 4000 8000 FEET

Legend

EXISTING BIKEWAYS

PROPOSED BIKEWAYS

Existing and Proposed Bikeways

Palmdale General Plan

North 0 4000 8000 Feet

Michael Brandman Associates

Exhibit 3-32

After the CMP is adopted, each city within the county must administer elements of the plan locally. The City's responsibilities include the following:

- Assisting in monitoring the CMP system.
- Adopting and implementing a trip reduction and travel demand ordinance.
- Analyzing the impacts of local land use discussions on the regional transportation system.
- Preparing annual deficiency plans for portions of the CMP system where levels of service standards are not maintained.

LACTC will annually review the City's performance of these responsibilities to ensure that they are in compliance with the CMP. After notice and a correction period, LACTC will report local agencies who are out of compliance to the state controller, who will then withhold a portion of their state gas tax funds.

LACTC anticipates final adoption of the County's Congestion Management Plan in late 1992. As drafted, the CMP includes the following roadways within the City of Palmdale:

- Antelope Valley Freeway (Highway 14)
- State Route 138
- Sierra Highway

After adoption of the CMP, levels of service on these roadways must stay at LOS E or better; if they do not, the City must prepare a deficiency plan to bring level of service back up to LOS E. Under the CMP legislation, once a roadway in entered into the CMP network, it cannot be deleted, even if service levels are ultimately improved. Even though the CMP for Los Angeles County is not yet adopted, the City's policy since 1991 has been to condition development projects to comply with CMP requirements.

Transportation Demand Management (TDM) Measures

The City of Palmdale has been pro-active in promoting reductions in trips through ride-sharing programs. As noted above, the City has provided and required developers to provide several park-and-ride sites throughout

the City. In the future, the City will formulate a comprehensive park-and-ride plan to coordinate location of these facilities with public transit routes.

Other TDM measures will include preparation and adoption of a TDM Ordinance, in compliance with the CMP. Various TDM measures to be addressed in this ordinance include:

- Require that if employers subsidize parking they also subsidize transit.
- Proactive workplace-based promotion and marketing of commute alternatives, including employee rideshare coordinators and Transportation Management Organizations.
- Financial subsidy for transit riders and carpoolers including fare subsidies and/or transportation allowance.
- Employee-paid parking charges.
- Provision of midday transportation and guaranteed-ride-home for ridesharers.
- Walk-accessible transit services.
- Preferential treatments for ridesharing, including parking and high occupancy vehicle facilities.
- Modified work weeks.
- Flexible work hours.
- Work at home and satellite work centers.

3.10 PUBLIC SERVICES

3.10.1 FIRE PROTECTION

The fire season in Palmdale and surrounding areas occurs roughly from September through November. A combination of climatological and botanical factors makes the Antelope Valley and surrounding mountains susceptible to wild fires. In general, brush fire problems can be traced to four sources: vegetation, climate, slope, and people. Chaparral, sage, grassland, and other native plant life provide the major sources of fire fuel. These plants have adapted to the warm climate and require intense heat to regenerate.

Fires in the Antelope Valley are usually accompanied by an intense wind condition. These winds, blowing from the west at speeds of up to 100 miles an hour, are hot and dry and are capable of spreading flames at a rapid rate. A hot, dry climate leaves the area susceptible to major brush fires.

Slope also acts as an agent to brush fire occurrence. Fire tends to spread more quickly on the steeper slopes. On very steep slopes, the spreading effect will be more significant than the combustibility of the vegetation. Steep slopes also make it difficult to deliver firefighters and equipment to the site, and therefore, the ability to suppress the fire is limited. Fire hazard areas are shown in Exhibit 3-33.

Fires occur year-round and are caused mainly by human carelessness rather than by botanical and climatological factors. Discarded cigarettes and materials in bushy areas and off-road vehicles without the proper spark arresters are to blame for many fires.

The City of Palmdale coordinates its fire protection services through Los Angeles County Fire Department. Currently, there are three fire stations located within the Palmdale Planning Area that are directly responsible for major sections of the City: Stations 37, 131, and 24. Station 131 is a subunit of Station 37. There are five additional stations (Stations 84, 92, 114, 117, and 129) that serve the outlying areas. The future Ritter Ranch area would be served by the closest available station at the time a fire breaks out. If the fire is large enough, the fire district will draw from Santa Clarita stations, the closest one being in Canyon Country, off Sierra Highway. The United States Air Force Plant 42 maintains its own fire station and equipment, and has a mutual

aid agreement with the City. Exhibit 3-34 shows fire station locations and initial action areas. Fire station staff and equipment are summarized in Table 3-20.

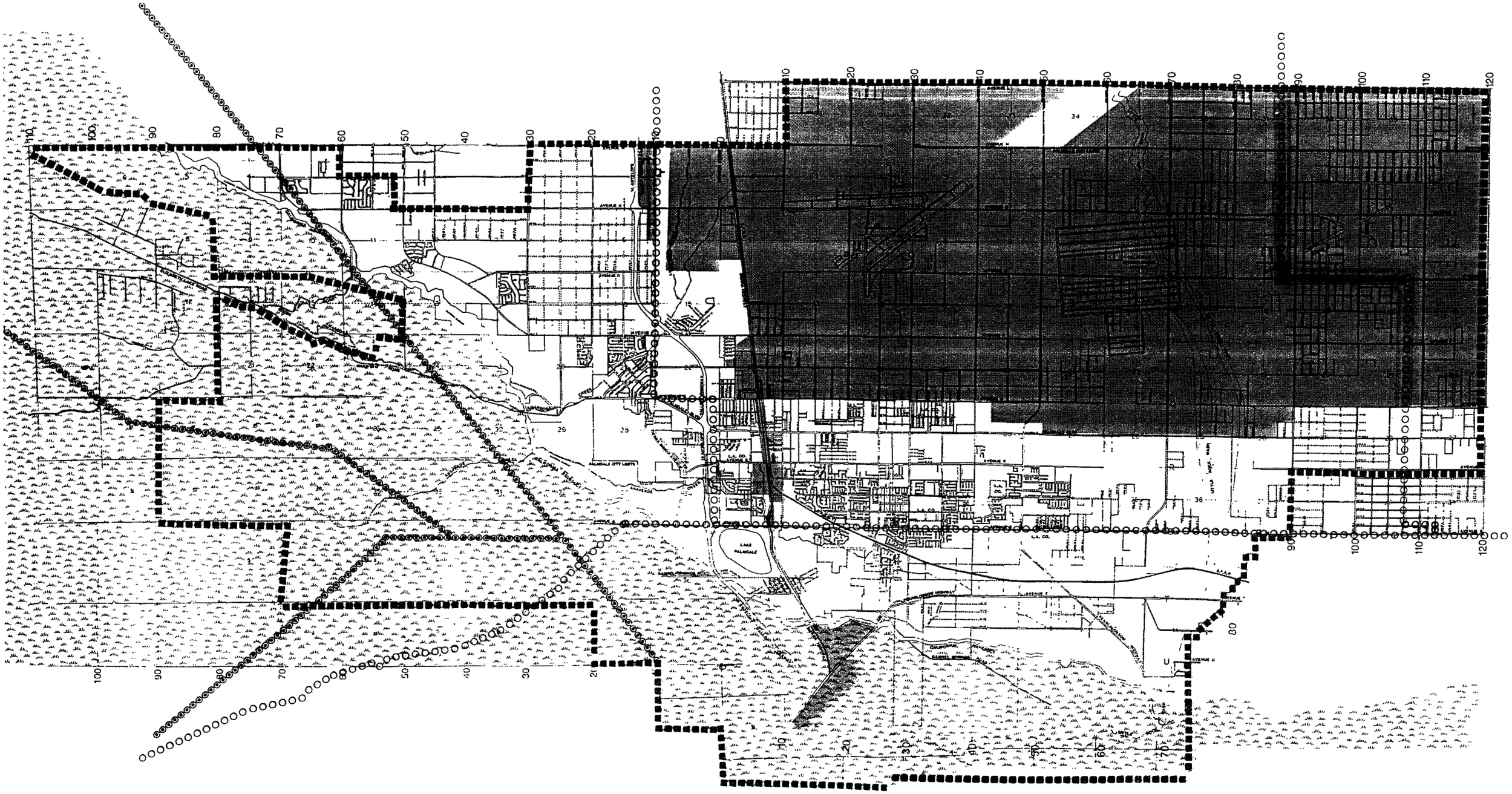
TABLE 3-20

FIRE PROTECTION PERSONNEL AND EQUIPMENT

	Firefighters	Patrol	Engine	Truck	Squad
Stations in Palmdale					
24: West Avenue P	21	1	1	1	0
37: 38318 9th Street East	15	0	1	0	1
131: 38318 9th Street East	9	0	1	0	1
Other Stations					
84: 503 L-14, Quartz Hill	15	1	1	0	1
92: East Avenue V Little Rock	15	1	1	0	1
114: 17021 Elizabeth Lake Rd. Leona Valley	9	1	1	0	1
117: Division and H-8 Lancaster	12	1	2	0	0
129: 421 West Avenue M Lancaster	9	0	1	0	0

Source: City of Palmdale Fire Department.

In the immediate vicinity of the Antelope Valley is the Angeles National Forest which is serviced by the United States Forest Service. The U.S. Forest Service provides fire protection within the national forest. Adjacent to

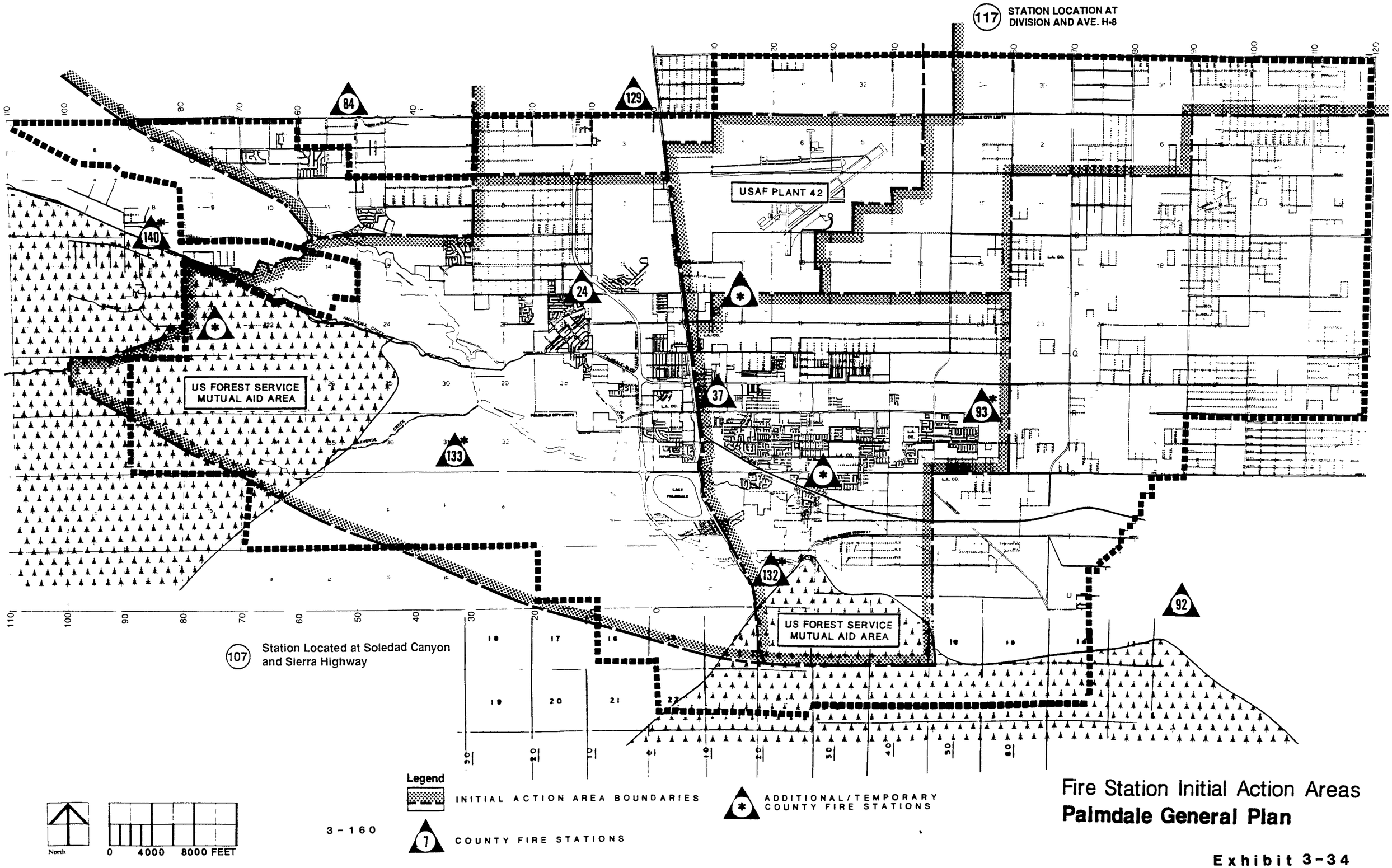


Legend

- Designated Industrial Areas
- Fire Zone 4 (Brush Areas)
- Power Transmission Line
- Gas Line

Wildfire Hazard Zones
Palmdale General Plan

Exhibit 3-33



Fire Station Initial Action Areas
Palmdale General Plan

Exhibit 3-34

the forest boundary is an area that is served by both the U.S. Forest Service and the engine companies in the Palmdale area. This mutual aid area extends from the forest to the outer edges of Palmdale.

Palmdale is also part of the Consolidated Fire Protection District. This district is part of the Los Angeles County Fire Department and serves 49 cities, as well as unincorporated areas of the county. Its main purpose is to provide back-up service for cities and other county areas under emergency fire conditions. As part of a regional district, the fire stations in Palmdale are backed up by all manpower and resources of the County Fire Department. This means that fire protection needs in the Planning Area shall be met by the entire department's resources, if needed, regardless of the number of firefighters and equipment stationed in the Palmdale area.

The fire prevention office located in Lancaster is responsible for reviewing building permits to ensure that new construction projects adhere to fire code requirements. The requirements for fire safety in construction include fire retardant materials, water storage tanks, fire hydrants, sprinkler systems, fire alarms, and fire escapes. Fire code requirements vary according to the type of use and construction materials employed. Fire protection also requires a ready source of water for firefighting uses. As fireflow capacities are calculated together with water supply requirements, there should be enough water for fire emergencies.

Staff from the individual fire stations conduct onsite inspections of new construction, as well as annual inspections of existing structures to ensure compliance with the fire code. In addition, the fire protection office conducts information programs for the community on fire awareness and protection.

Fire Flow

To ensure that fireflow requirements (Table 3-21) are met and standards for fire safety construction are observed, the County Fire Prevention Bureau is charged with the review and inspection of development projects in the Planning Area.

TABLE 3-21

FIREFLOW REQUIREMENTS

Single-family Residential	1,250 gpm
Multi-family Residential	2,000 gpm
Commercial/Industrial	3,500 gpm
School, except High School	2,500 gpm
High School	3,000 gpm

Source: Based on Los Angeles County Fire Department Standards 1990.

3.10.2 POLICE PROTECTION

The City of Palmdale receives its police protection service under contract with the Los Angeles County Sheriff's Department. The unincorporated areas surrounding the City receive law enforcement services from the Sheriff's Department and traffic enforcement services from the California Highway Patrol (CHP). Each agency provides emergency back-up for the other.

Currently, there are two Sheriff's stations serving the Antelope Valley (see Exhibit 3-33):

- Antelope Valley Station
  1010 W. Avenue J
  Lancaster

- Palmdale Station
  1020 E. Palmdale Boulevard
  Palmdale

The California Highway Patrol maintains an office at:

- 44245 N. 20th Street, West
  Lancaster

The CHP station has 30 uniformed officers and 3 staff personnel. The CHP handles traffic related activities, including accident prevention, school bus safety, motorcycle training, and truck safety. Funds come from state vehicle registration fees. Evening traffic generates the greatest need for patrol. From 2 to 10 p.m., there are approximately eight CHP officers on duty, depending on the demand.

The County Sheriff's Department serves Palmdale, Lancaster, and the unincorporated county areas in the Antelope Valley, covering 1,800 square miles. The Sheriff's Department is responsible for all crime response and rescue operations, as well as traffic and parking problems in Palmdale. There are 213 sworn officers, 21 detectives, and 22 staff personnel in the Antelope Valley. Traffic operations such as citing for parking violations or directing traffic are considered nonhazardous duties and handled by community service officers (CSO). The Palmdale Station patrols 368 square miles and is served by 65 sworn officers and 9 staff personnel, as contracted for the 1991-92 fiscal year. This includes 13 one-man cars, 2 two-man cars, 2 team leaders, 1 liaison officer, and 4 CSOs. Aside from the paid personnel, there are 50 volunteers who perform clerical duties at the station. Volunteer services are offered by 23 reserve deputies, 11 search and rescue team members, 11 posse members, and 33 explorer scouts. These volunteers patrol county areas unless needed in city areas.

In the Palmdale area, the day shift has 12 patrol cars and two CSO cars, and the evening shift has approximately 13 cars and 1 CSO car. The Antelope Valley station has detention cells for arrested persons. The Palmdale station has no detention facilities and, therefore, transports all detainers to the Antelope Valley station.

Detention is provided for short periods only. If no bond or bail is posted, arrested individuals are transferred to the main jail in downtown Los Angeles. The Antelope Valley sheriff station is located adjacent to the Superior Court and other municipal courts in Lancaster. Accused persons brought to the downtown Los Angeles facility are transported back to the Antelope Valley courts for trial.

The Sheriff's Department operates a crime prevention program including presentations on existing laws and crime prevention in schools and businesses, a neighborhood watch program, a special patrol car for drunk drivers, and a liaison officer for the City. Table 3-22 describes reported crimes within the Antelope Valley for 1988 through 1991.

Response Times

One criteria used for judging adequate police protection services is the time it takes for a law enforcement unit to respond to a request for service. Response times are classified depending on the type of call (i.e., emergency, routine, etc.). Response times demand on traffic and circulation, distance from the site of the call, and the availability of officers.

Service Ratio

The service ratio is the calculation of how many law enforcement officers there are to service a given population. Police-to-population ratios are not entirely accurate determinants of adequacy, but provide tangible measures of comparison. The Palmdale station's current police officer to population ratio of 1:1,000 is considered adequate to meet the needs of the City. The Los Angeles County Sheriff's Department service ratio is one (1) police officer per 1,160 persons.

TABLE 3-22

REPORTED CRIMES

Crime	1988	1989	1990	1991
Willful Homicide	4	2	5	4
Forcible Rape	24	30	33	40
Robbery	103	115	131	165
Aggravated Assault	472	530	801	701
Burglary	689	868	873	1,027
Motor Vehicle Theft	370	716	682	1,755
Larceny-Theft	1,073	1,436	1,518	554
Arson	22	18	34	24
Total	2,757	3,715	4,077	4,269
Total Population[a]	39,149	45,859	68,842	78,046
Crimes per Capita[b]	0.0704	0.0810	0.0592	0.0547

[a] Department of Finance estimates.
[b] Total crimes divided by total population.

Source: Department of Justice, Bureau of Criminal Statistics 1988, 1989, and 1991.

3.10.3 SCHOOLS

School District

The Palmdale Planning Area is served by seven school districts that include the Palmdale Elementary School District, Lancaster School District, Eastside Union School District, Keppel Union School District, the Westside

Union School District (elementary), the Antelope Valley Union High School District, Soledad-Agua Dulce School District, Hughes Elizabeth Lake Union School District, and the Antelope Valley Community College District. Each district is autonomous and is governed by a Board of Trustees. Exhibit 3-35 shows the location of elementary schools and district boundaries. Table 3-23 lists the schools and their locations for school districts in the Palmdale Planning Area.

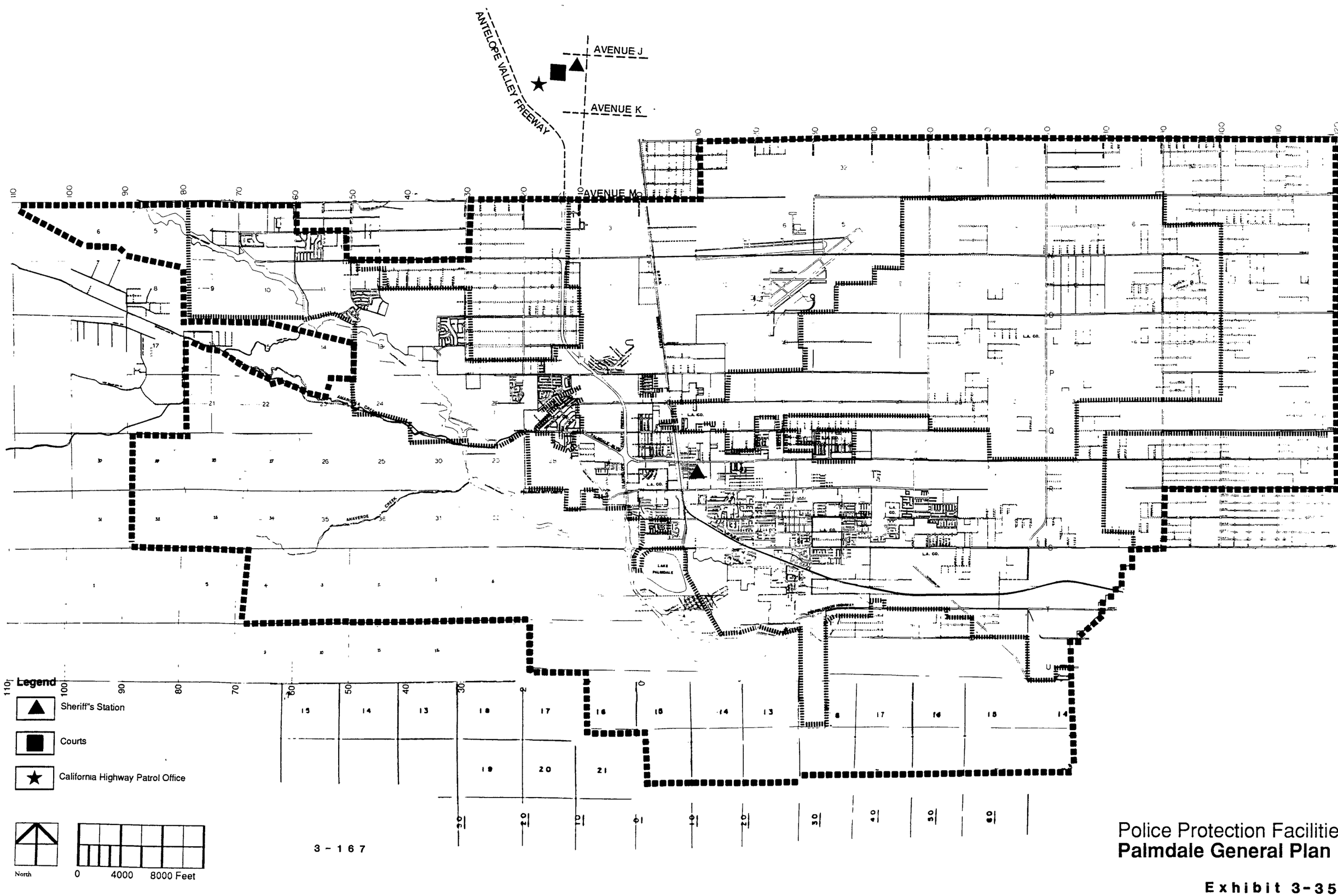
Elementary Schools

The Palmdale School District serves the central developed core of the City. The Palmdale School District has 11 existing elementary school sites, 9 of which are permanent facilities (Chaparral, Desert Rose, Joshua Hills, Manzanita, Mesquite, Ocotillo, Palm Tree, Tamarisk, Tumbleweed, and Yucca) and 1 of which is temporary (Summer Wind). Cactus and Wildflower are two permanent kindergarten through eighth (K-8) schools operated by the district, and Buena Vista is a temporary K-8 facility operated by the District. Juniper and Mesa are the two intermediate (7-8) schools operated by the District, both of which are permanent. Exhibit 3-36 depicts locations of elementary schools.

Expansion plans of the district include conversion of the temporary facilities at the Summerwind and Buena Vista sites to permanent structures by the end of 1993. Construction on the proposed school will begin soon. In addition, construction could begin on the Ana Verde site in 1993. There are also six elementary and two intermediate sites owned by the district being considered for new campuses.

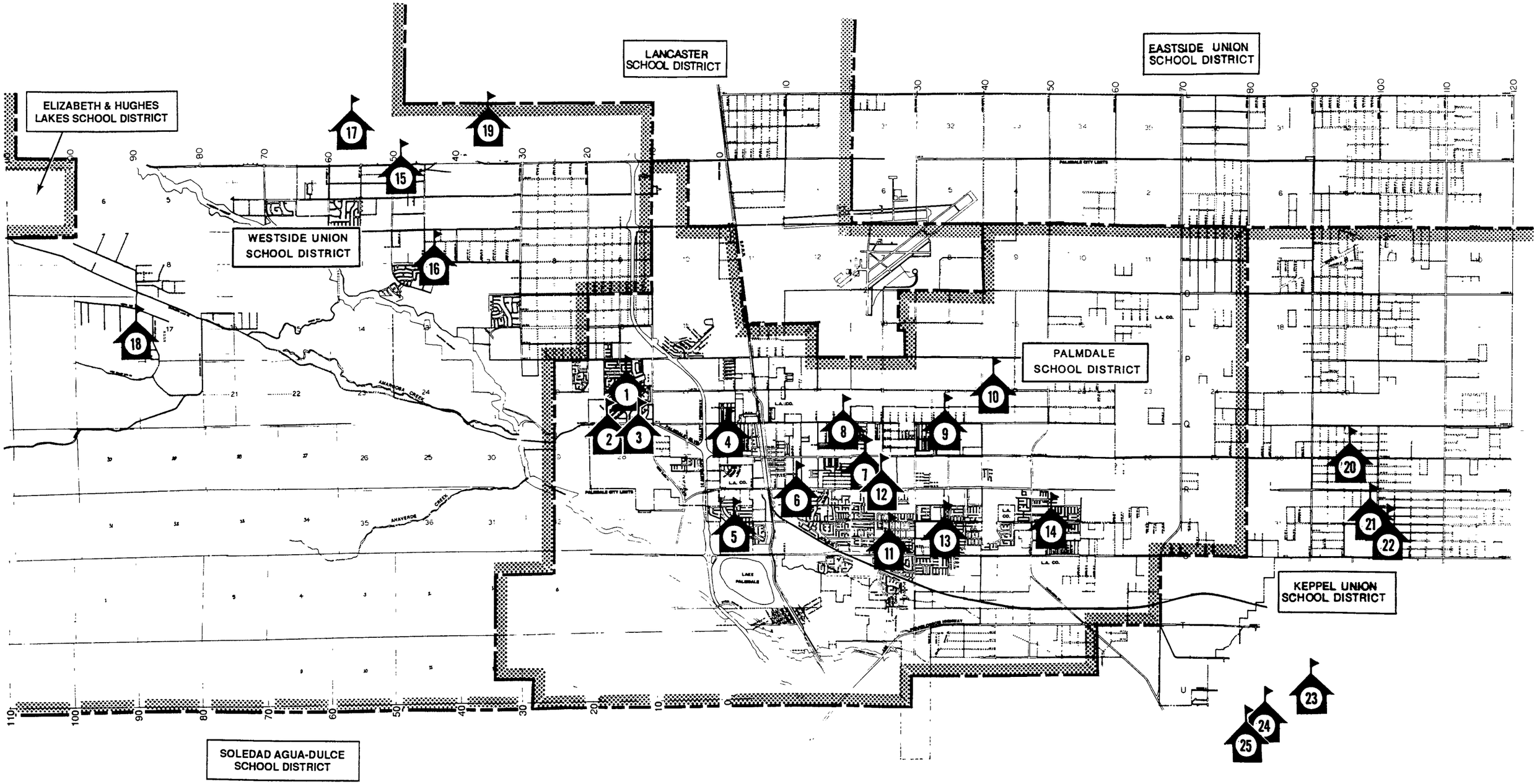
In addition to building new schools, the district is planning to expand its existing intermediate schools and renovate its elementary schools. Juniper, Tamarisk, Yucca, and Manzanita schools will be renovated as funding is made available. Temporary facilities are added as needed to existing campuses to meet the growing student population's needs.

The District has been designated by the state as a year-round school district. Based on the Orchard Elementary School program in Utah, this year-round program features five rotating schedules of 12 weeks of classroom work and 3 weeks of community activities and enrichment programs. This program decreases class sizes and fully



Police Protection Facilitie
Palmdale General Plan

Exhibit 3-35



Legend

Elementary Schools

District Boundary

North

0 4000 8000 Feet

Elementary Schools
Palmdale General Plan

Exhibit 3-36

TABLE 3-23

SCHOOLS AND ENROLLMENT BY DISTRICT

School	Location	Grade	1991-1992 Enrollment
Palmdale School District			
Buena Vista	37501 51st Street East	K-8	703
Chaparral	39066 Palm Tree Way	K-6	1,087
Desert Rose	2801 E. Avenue R-6	K-5	843
Joshua Hills	3030 Fairfield Avenue	K-6	1,174
Mesa	3243 E. Avenue R-8	7-8	1,096
Manzanita	38626 33rd Street East	K-6	913
Mesquite	37622 42nd Street East	K-5	784
Ocotillo	38737 Ocotillo School Drive	K-6	915
Palm Tree	1100-B E. Avenue R-4	K-5	464
Summer Wind	39360 Summer Wind Drive	K-6	595
Tamarisk	38703 20th Street East	K-5	787
Tumbleweed	110 E. Avenue R-4	K-6	1,256
Wildflower	2801 E. Avenue R-6	K-8	782
Yucca	38440 Second Street East	K-6	879
Cactus	4037 E. Avenue R-8	K-8	1,081
Amargosa	Closed	N/A	N/A
Sumac	4037 E. Avenue P-8	6	390
Juniper	39066 Palm Tree Way	7-8	975
Sage	Closed	N/A	N/A
Westside Union School District			
Leona Valley	9063 Leona Avenue, Leona Valley	K-5	154
Quartz Hill	41820 50th Street West, Quartz Hill	K-5	941
Valley View	3310 W. Avenue L-8, Quartz Hill	K-5	527
Cottonwood	2740 W. Avenue P-8	K-5	534
Rancho Vista	40641 Peonza Lane	K-5	484
Del Sur	9023 W. Avenue H, Lancaster	K-8	805
Joe Walker	5623 W. Avenue L-8, Quartz Hill	6-8	1,189
Eastside Union School District			
Eastside	6742 E. Avenue H, Lancaster	K-5	429
Tierra Bonita	6742 E. Avenue H, Lancaster	K-5	700
Gifford C. Cole	6742 E. Avenue H, Lancaster	6-8	740
Keppel Union School District			
Pearblossom	12828 E. Avenue W, Pearblossom	K-6	531
Lake Los Angeles	16800 Lake Los Angeles, Palmdale	K-8	591

TABLE 3-23 (continued)

School	Location	Grade	1991-1992 Enrollment
Alpine	8244 Pearblossom Hwy, Littlerock	K-5	512
Antelope	37237 100th St. East, Littlerock	3-5	348
Almondale	9330 E. Avenue U, Littlerock	6-8	447
Daisy Gibson	9655 E. Avenue Q-10, Littlerock	K-6	628
Lancaster School District			
Nancy Cory	3540 W. Avenue K-4, Lancaster	K-6	889
Joshua	43926 Second St. East, Lancaster	K-6	990
Sierra	747 W. Avenue J-12, Lancaster	K-6	860
Sunnydale	1233 W. Avenue J-8, Lancaster	K-6	1,014
Park View	808 W. Avenue J, Lancaster	7-8	1,132
Piute	425 E. Avenue H-10, Lancaster	7-8	1,071
Desert View	155 W. Avenue H-10, Lancaster	K-6	807
Linda Verde	44924 5th Street West, Lancaster	K-6	776
New Vista	831 E. Avenue K-2, Lancaster	K-6	699
Lincoln[a]	1331 E. Avenue J-8, Lancaster	K-6	861
Monte Vista	1235 W. Kettering	K-6	975
Mariposa	737 W. Avenue H-6	K-6	590
El Dorado	361 E. Pondera	K-6	765
Lancaster	44044 36th Street West	K-5	373
Soledad-Agua Dulce School District			
High Desert	3710 Antelope Woods Road, Acton	7-8	328
Acton	32248 Crown Valley Road, Acton	K-6	836
Agua Dulce	32700 Agua Dulce Canyon Road	K-6	427
Hughes/Elizabeth Lakes Union School District			
Hughes/Elizabeth Lakes	16633 Elizabeth Lake Road	K-8	473
Antelope Valley High School District			
Palmdale	2137 E. Avenue R, Palmdale	9-12	2,447
Quartz Hill	6040 W. Avenue L, Quartz Hill	9-12	2,474
Antelope Valley	44900 Division Street, Lancaster	9-12	2,883
Littlerock[b]	10833 E. Avenue R, Littlerock	9-12	1,404
Highland[b]	39055 25th Street West, Palmdale	9-12	1,996
Desert Winds	45030 N. Third Street East	Cont.	180

TABLE 3-23 (continued)

School	Location	Grade	1991-1992 Enrollment
Proposed Schools			
Palmdale School District			
Anaverde	Division and Avenue 12	7-8	
Desert Willow	37500 70th Street East	7-8	
Barrel Springs	2010 E. Barrel Springs Road	K-6	
Westside Union School District			
Elementary	30th Street West and Avenue P-8	K-4	
Sundown Elementary	68th Street West and Avenue K-4	K-5	
Elementary (temp.)	30th Street West and Avenue K-8	K-5	
Nunash Elementary	270th Street West	K-5	
Hillview	Ponza Avenue	6-8	
Eastside Union School District			
Elementary	27th St. East and Lancaster Blvd.	K-5	
Lancaster School District			
Oasis (temporary)	43244 13th Street East, Lancaster	K-5	
Lancaster (temp)	44044 36th Street West, Lancaster	K-5	
North East	Avenue H-8 and 15th Street East	K-5	
New Vista Middle	Avenue K-2 and 22nd Street East	6-8	
Northwest	Avenue K and 45th Street West	K-5	
Westside	45th Street West and Avenue K	6-8	
Antelope Valley High School District			
35th Street West and Lancaster Blvd.		9-12	
30th Street East and J-8	9-12		

[a] Temporary facility.

[b] Ninth grade.

Source: Palmdale Elementary, Lancaster; Eastside Union, Keppel Union, Westside Union, Antelope Valley High, Soledad-Agua Dulce, and Hughes Elizabeth Lake Union School Districts; and Antelope Valley Community College District 1990.

utilizes school facilities. Also, it is believed to improve learning retention and encourage parent participation. In the 1992/93 school year, the Palmdale School District plans to have 87 percent of its students on year-round schedules, three schools on the Orchard Plan, and 11 on a 60/15 plan, where students attend school for 60 days and break for 15 days.

The school district also offers programs for children with learning problems, special courses in language and speech, and home and hospital classes. In addition, 4-H groups provide childcare services to 281 students at six of the district's schools. This program is funded by a state grant and will be expanded to serve more children. Schools involved in the 4-H program include Cactus, Ocotillo, Manzanita, Buena Vista, Joshua Hills, and Wildflower.

In the fall of 1992, the total elementary school enrollment in Palmdale was 14,724 students compared to 11,802 students in Lancaster. However, Lancaster has a larger population than Palmdale which indicates that a larger number of families with school-age children live in Palmdale. There are 509 teachers in the Palmdale School District, providing a student-teacher ratio of 29:1.

The Westside Union School District serves the majority of the western section of the Planning Area. The district has six elementary school sites (Valley View, Del Sur, Leona Valley, Rancho Vista, Cottonwood, and Quartz Hill) and one intermediate school (Joe Walker). Leona Valley, Rancho Vista, Quartz Hill, and Joe Walker serve the northwestern area of Palmdale. As of March 1992, the district had a total enrollment of 4,634. There are 180 teachers serving the district, yielding a student/teacher ratio of 26:1.

Presently, the Westside Union School District is renovating the Quartz Hill Elementary facility. It was completed on May 4, 1990. Rancho Vista opened in September 1989, providing the District with 18 relocatable classrooms for 408 K-5 students.

Cottonwood Elementary School near 30th Street West and Avenue P-8 opened in September 1991, with the ability to accommodate approximately 600 students in the K-5 grades. It may be converted to a middle school when the need arises. To meet the needs of the growing population, the district plans to open two new elementary schools (Nunash, Sundown), as well as a middle school (Hillview), each serving 600 students.

Currently, Nunash is expected to open in fall 1992 and Hillview is expected to open in January 1993 after construction is completed. Sundown is still in the planning stage.

The Lancaster School District primarily serves the City of Lancaster and a small area on the northern central section of the City of Palmdale. It presently has 11 permanent elementary schools (Desert View, El Dorado, Joshua, Linda Verde, Mariposa, Monta Vista, Sierra, New Vista, Lancaster, Nancy Cory, and Sunnydale) and one temporary school (Lincoln). Parkview and Piute are the two intermediate schools operated by the district. Children living on the north side of Palmdale attend Nancy Cory (K-6), Joshua (K-6), Sierra (K-6), Sunnydale (K-6), Park View (7-8), or New Vista (temporary K-6). Currently, Park View and Joshua are undergoing reconstruction and three other sites are planned for renovation as funds become available.

The Lancaster School District is experiencing a rapid enrollment growth and, as of March 1992, served 11,802 students. Projected enrollment for the District in 1995 is approximately 15,000 students. Currently, there are 447 teachers in the district creating a student/teacher ratio of 26:1. To meet the needs of this population, six sites are in the planning process over the next 5 years; four elementary schools (Lancaster Elementary, Oasis, Northeast Elementary, and Northwest Elementary) and two intermediate schools (Westside Middle School and New Vista Middle School). Relocatable classrooms have been used in the past and will continue to be used to accommodate the rapid student population growth in the Antelope Valley.

The Keppel Union School District serves the eastern and southern sections of the City and has six schools (Almondale, Alpine, Antelope, Daisy Gibson, Lake Los Angeles, and Pearblossom); Lake Los Angeles School is the only school which does not serve the east or southeast portion of the Planning Area. The February 1992 enrollment in the district was 3,085 students, which translates into 70 percent of the facilities being over capacity. The district is planning to expand Daisy Gibson Intermediate to K-8. Currently, there are approximately 118 teachers in the district, with a student/teacher ratio of 25:1.

The Eastside Union School District serves the northeastern portion of the City and has three schools (Eastside, Tierra Bonita, and Gifford C. Cole Intermediate) that serve 1,869 students. The District serves a small area on the northeast section of Palmdale. In the past, there has been a large number of migrant working families in the area, resulting in increased enrollment during the harvest seasons. Portable classrooms are used to

accommodate these fluctuations. Presently, the District is experiencing approximately 20 percent growth in student population per year. Thus, projected enrollment for 1995 is 3,533 students. To accommodate this growth, existing facilities have been, and will continue to be, renovated and expanded. In August 1992, the District plans to open a new elementary facility on 27th Street East and Lancaster Boulevard. The new structure will accommodate 360 students and 12 teachers. Currently, there are 80 teachers in the District, yielding a student/teacher ratio of 23:1.

The Soledad-Agua Dulce School District serves the southwest portion of the Planning Area. It has two elementary schools (Acton and Agua Dulce) and one intermediate school (High Desert) in the Acton and Agua Dulce areas. The enrollment for March 1992 is 1,591 students and projections for 1995 estimate 2,089 students. Currently, there are 55 teachers in the district, yielding student/teacher ratio of 28:1.

The Hughes Elizabeth Lake Union School District serves Lake Hughes, Lake Elizabeth, and Green Valley. One school, Hughes Elizabeth Lakes (K-8), currently serves 473 students as of March 1992. There are 15 teachers in the district, yielding a student/teacher ratio of 32:1.

Table 3-24 provides current enrollment figures and overcrowding of different schools within the Planning Area.

TABLE 3-24

SCHOOL CAPACITY AND ENROLLMENT, 1992

School	Capacity[a]	Current Enrollment	Overcrowding[b]	Relocatable Classrooms
Palmdale School District				
Buena Vista	0	703	703	6
Cactus	0	1,081	1,081	30
Chaparral	689	1,087	398	--
Desert Rose	689	843	154	1
Joshua Hills	690	1,174	484	4
Manzanita	510	913	403	11
Mesquite	0	784	784	21
Ocotillo	690	915	225	--
Palm Tree	0	464	464	15

TABLE 3-24 (continued)

School	Capacity	Current Enrollment	Overcrowding[a]	Relocatable Classrooms
Summerwind	0	595	595	14
Tamarisk	570	787	217	8
Tumbleweed	540	1,256	716	15
Wildflower	0	782	782	8
Yucca	600	879	279	5
Juniper Interm.	903	975	72	--
Sumac	0	390	390	18
Total	5,881	13,628	7,747	156
Westside Union				
Del Sur	788	805	17	4
Joe Walker	992	1,189	197	8
Leona Valley	240	154		0
Quartz Hill	788	941	153	6
Valley View	612	527		19
Rancho Vista	520	484		18
Cottonwood	660	534		--
Total	4,600	4,634	367	55
Lancaster				
Nancy Cory	630	889	259	8
Park View	930	1,132	202	11
Sierra	720	860	140	10
Joshua	840	990	150	6
New Vista	0	699	699	23
Lancaster	0	373	373	22
Sunnydale	660	1,014	354	29
Piute[c]	870	1,071	201	14
Desert View[c]	510	807	297	18
Linda Verde[c]	540	776	236	7
Lincoln[c]	0	861	861	31
El Dorado[c]	630	765	135	9
Mariposa[c]	593	590		6
Monte Vista[c]	750	975	225	5
Total	7,770	11,802	4,132	199

TABLE 3-24 (continued)

School	Capacity	Current Enrollment	Overcrowding[a]	Relocatable Classrooms
Eastside Union				
Eastside	540	429		10
Gifford C. Cole	1,050	740		18
Tierra Bonita	960	700		24
Total	2,550	1,869		52
Keppel Union				
Almondale	484	447		1
Alpine	N/A	512	--	--
Antelope	347	348	1	0
Daisy Gibson	0	628	628	4
Lake Los Angeles	0	591	591	17
Pearblossom	613	531	63	0
Total	1,444	3,057	1,283	22
Antelope Valley High				
Quartz Hill	2,152	2,474	322	43
Palmdale	2,280	2,447	167	33
Antelope Valley	2,388	2,883	495	28
Highland	2,079	1,996		0
Little Rock	2,079	1,404		11
Desert Winds	165	180	15	1
Total	11,143	11,384	999	116

[a] Zero capacity indicates all students are housing in relocatable classrooms.

[b] Overcrowded students are housed in relocatable classrooms at approximately 27 to 30 students per classroom.

[c] Does not serve the Palmdale Planning Area.

Source: Palmdale Elementary, Lancaster; Eastside Union, Keppel Union, Westside Union, Antelope Valley High, Soledad-Agua Dulce, and Hughes Elizabeth Lake Union School Districts; and Antelope Valley Community College District 1990.

Overcrowding at school districts serving the Palmdale Planning Area has been due to rapid population growth in the Antelope Valley. Relocatable classrooms have been and will continue to be used to accommodate new students until permanent schools are built. With districts competing for limited state funds, financing has not been readily available to construct the needed schools. The approval of development projects in the Planning Area without concrete plans for school facilities have made school districts rely more heavily on relocatable classrooms than expected. The construction of permanent schools continues to lag behind the student population growth in Palmdale. State law requires 30 percent of teaching stations to be relocatable to adjust to fluctuating enrollments. The Palmdale, Lancaster, and Eastside Union school districts have more than 30 percent of their students in relocatables, suggesting overcrowding beyond acceptable levels.

Aside from the public schools, there are preschools and private elementary schools in the area. These include 10 schools in Lancaster of which 3 offer a preschool-12 education (Bethel Christian Academy, Antelope Valley Christian School, and Landmark Christian School), one offering K-12 (Antelope Valley Springs of Life), 2 that offer K-10 (Antelope Valley Adventist and Desert Christian School), 3 offering K-8 (Grace Lutheran School, Lancaster Christian School, and Sacred Heart), and 1 High School (Paraclete). In Palmdale, there are five private schools: two offering preschool-12 (Accelerated earning Academy and Bethel Christian Academy), one offering K-12 (Appleby College Elementary School), one offering grades 1-8 (Mary's Catholic School), and one offering preschool-6 (Westside Christian School).

High School

The Antelope Valley Union High School District serves the entire Planning Area and has five high schools: the Antelope Valley, Highland, Quartz Hill, Littlerock and Palmdale, and Desert Winds, a continuation school. Exhibit 3-37 shows the sites and attendance boundaries of the high schools. The three high schools: Palmdale, Antelope Valley, and Quartz Hill were built for 6,110 students, but current 1992 enrollment figures are at 7,804. There are 105 relocatable classrooms that hold the excess in school capacity (see Table 3-24.)

Palmdale High School was built for 1,950 students but the 1992 enrollment was 2,447 students. It has 37 relocatable classrooms holding 28 students each, onsite to alleviate overcrowding.

The new Highland High School has been constructed at 25th Street West in Palmdale. An additional high school, Littlerock, opened in 1991. Both facilities are designed to accommodate 2,079 students. Enrollment figures for the 1989-1990 school year were estimated to have been 350. Currently, the student enrollment is approximately 1,404 students. Located at 110th Street East and Avenue R, Littlerock High School will be constructed as a duplicate of the plan for Highland High School. Littlerock currently has only 9th through 12th graders and will be developed with 24 relocatable classrooms. A special feature of Littlerock High School will be its special education facilities.

Two other high schools are in the planning stages. One will be at 35th Street West and Lancaster Boulevard and another will be located at Avenue J-8 and 30th Street East. Both schools are expected to open by 1996.

Aside from the regular high school program, the district has the Antelope Valley Adult School which offers adult education classes, business classes and high school diploma courses at different locations throughout the valley. Approximately 3,800 students are enrolled in the adult school. Continuation high school classes for those with disciplinary, learning, and emotional problems are offered in the District's Desert Winds High School in Lancaster. It currently serves 587 students and accepts students from all of the other high schools of the district.

The State Board of Education has no state mandated or optimum teacher-student ratio, but the current teacher-student ratio for the district is 1:29, which meets the district's goal. Projections for 1994-95 indicate a total high school enrollment of 19,114 students. This would require construction of four more high schools in the next few years to meet the district's service goal.

The Los Angeles County Superintendent of Schools conducts special education classes in Palmdale's elementary and high schools. There are 45 classes in the combined Lancaster and Palmdale area. The classes are directed toward those with disabilities that include the partially blind or deaf and blind; students with language difficulties; the physically handicapped and multi-handicapped; those with other health disabilities; the emotionally disturbed; the trainable mentally retarded; those with developmental problems; and autistic children. In addition to the 45 class sites is an itinerant program that provides various services such as speech therapy and physical education on a rotating schedule.

The county maintains an independent jurisdiction over the administration, faculty, and registration of this special education program. The county agency rents facilities from the school districts to keep their students in a regular school environment. The school district's expansion plans are inclusive of the county's program based upon use and need of the facilities.

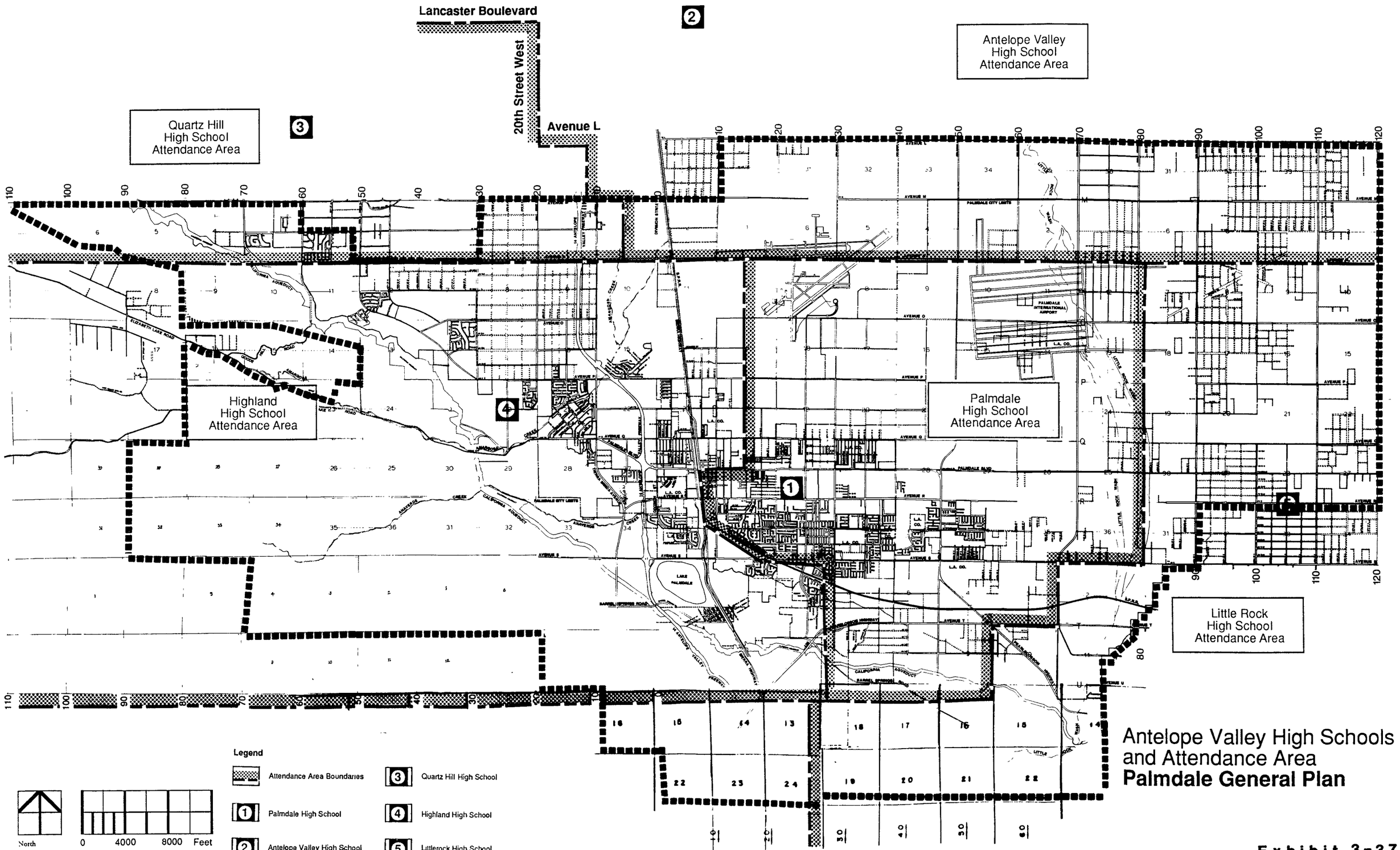
Bus transportation for the school districts is provided by an interdistrict agency, the Antelope Valley Transportation Agency.

Community College

The Antelope Valley Community College offers Associate degrees in Science and in Arts, as well as programs in registered nursing, nursing aide, and other vocational courses. Courses are also offered for students planning on attending 4-year colleges and universities. The college offers services for students with learning disabilities which include remedial classes in reading, writing, and mathematics. The college has a disabled student center that provides support services to students with various learning handicaps. Table 3-25 shows enrollment at the college.

The college has 90 classrooms on 110 acres of land, serving 2,100 square miles of the Antelope Valley community. It has 136 full-time professors and 270 part-time professors teaching in nine main fields of study. Most students take evening classes, resulting in classrooms that are half full in the afternoons and crowded in the evenings. This has prompted the use of Palmdale, Rosamond, Littlerock, and Quartz Hill High School classrooms for 55 to 70 evening classes. The college has recently opened a transfer center aimed at providing students with assistance in transferring to universities. Also, Antelope Valley College (AVC) has broadened its services by offering upper division courses taught by California State University staff members. Campuses involved in the program include Bakersfield, Dominguez Hills, Los Angeles, and Northridge.

The college plans to expand the facility to include a child development center, additional classrooms, a theater, remodelling of existing classrooms, a 35,000-square-foot arts building, an addition to the library, and a bookstore. This expansion is based upon the need for accommodating 15,000 students in 8 to 10 years. The college has qualified for funding of a $5 million library and $1.8 million administration building.



Antelope Valley High Schools and Attendance Area
Palmdale General Plan

Exhibit 3-37

TABLE 3-25

HISTORICAL AND PROJECTED ENROLLMENTS AT ANTELOPE VALLEY COLLEGE

Year	Students	Annual Growth
1981	7,706	--
1984	6,834	-11.3
1985	6,927	1.4
1986	7,738	11.6
1987	7,765	.5
1988	8,263	6.4
1989	8,888	7.6
1990	9,590	7.9
1991	10,090[a]	5.2
1992	10,680[a]	5.8
1993	11,330[a]	6.1
1994	12,360[a]	9.1
1995	13,410[a]	8.5

[a] Projected enrollments.

Source: Antelope Valley College, Department of Finance, March 1992.

The nearest private college is Chapman College in Lancaster. It is a 4-year college granting a Bachelors degrees in Social Science, Psychology, and Health Science. Master of Arts degrees are also offered. Extension programs are held at Edwards Air Force Base for Chapman College and other nearby universities.

Financing

Financing for educational services in the City comes from private and public sources. Primary sources include:

- Community Redevelopment Agency
- Special taxes
- General obligation bonds

- AB 2926 developer fees
- Mello-Roos community facilities district

Other sources are:

- Emergency classroom program
- SB 201 developer fees
- Sale of surplus property
- General fund
- Negotiated agreements between the district and the developer
- State lease purchase program
- Certificates of participation
- Revenue bonds

3.10.4 PARKS AND RECREATIONAL FACILITIES

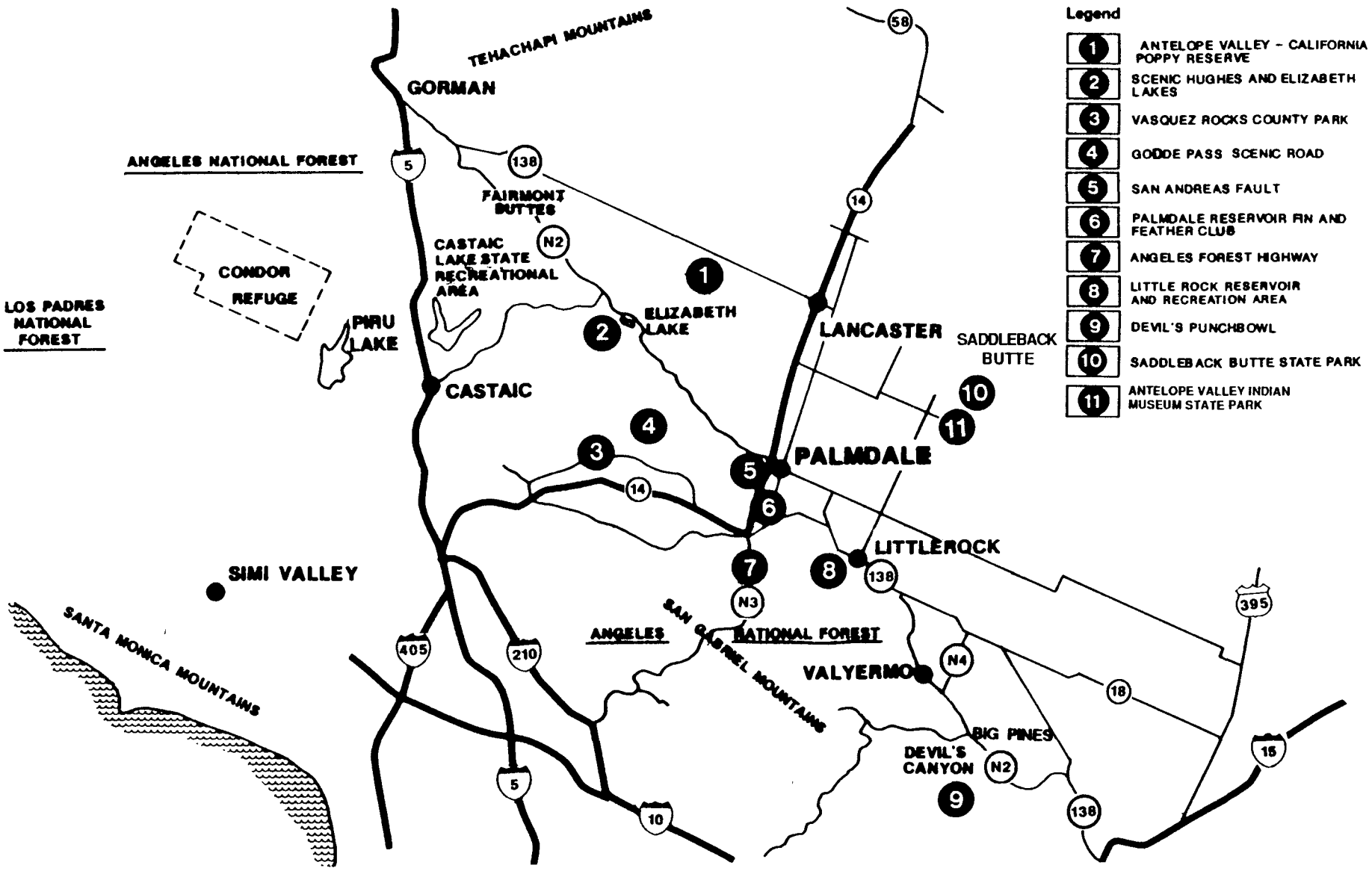
The natural landscapes in the Antelope Valley offer a wide variety of recreational opportunities to a large segment of the regional population.

Regional Facilities

The mountain areas of the Angeles National Forest are south and west of the Planning Area. They offer recreational opportunities that are compatible with their primary goal of watershed protection. Major recreational facilities in the area include the Castaic Reservoir, Pyramid Lake, and Big Pines. Exhibit 3-38 shows their locations.

Castaic Reservoir is a major reservoir of the State Water Project, with recreation facilities managed by the county. The total area of the site is approximately 8,000 acres, 1,570 acres of which is national forest. Castaic Lake contains 324,000 acre-feet of water, has a surface area of 2,232 acres, and a 28-mile shoreline. Recreational amenities include primarily day-use areas, boat launch ramps, and minimum overnight facilities.

Pyramid Lake is a 1,360-acre body of water located 15 miles south of Gorman on the old U.S. Highway 99. Eighteen miles of shoreline and approximately 45 acres of on-shore land is available for recreation use for



Regional Scenic and Recreational Opportunities
Palmdale General Plan

Exhibit 3-38

900,000 visitor-days annually. Forest service management direction is geared toward optimum public recreation in conjunction with domestic water and power production needs.

The Big Pines recreation area is located on a pine-forest environment with spectacular scenic views of the mountains and deserts. This area contains the highest point on the San Andreas rift zone. The elevation ranges from 5,320 to 7,500 feet above sea level. Pine forest covers over 60 percent of the area, while Pinyon-Juniper and semi-desert chaparral cover the rest of the area. Topography varies from steep mountain slopes in the northeast and south to high rolling ridges in the north. This developed recreation area is managed by the U.S. Forest Service. It includes 10,000 timbered acres of the northwest section of the Angeles National Forest. Recreation use is concentrated and heavy in its 18 organizational camps, 3 winter sports developments, 3 snow-play areas, a summer home tract, commercial lodging, riding stables, eating facilities, a pond, Forest Service administrative facilities, and over 250 family camping and picnicking units.

Landforms of the desert slope and the rift zone of the San Andreas Fault are open space resources for the entire region. They form the scenic backdrop for the Antelope Valley, and at the same time, they support outdoor recreation use of publicly-owned lands. Resources in the area are tied together by the California Aqueduct and the trail that parallels it. Major recreation areas in this zone are the Lake Hughes-Elizabeth Lake area, Palmdale Reservoir, and the Big Rock and Little Rock Creek areas.

A landform-oriented recreation facility to the southeast is Devil's Punchbowl. The 1,200-acre recreation area encompasses a spectacular geologic formation, and contains jumbles of huge sandstone slabs lying in red sandstone and small angular fragments. The Punchbowl is unique within the surrounding topography and is often referred to as the most striking feature along the 700-mile San Andreas Fault. This regional park includes a headquarters building, parking lot, and picnicking facilities overlooking a major portion of the scenic area. Hiking trails, viewpoints, and directional signs constitute the principal improvements on the land under permit.

Another regional park facility accessible to residents in the Planning Area is Vasquez Rocks, located in the community of Agua Dulce 14 miles southwest of Palmdale. Vasquez Rocks is a 754-acre site that contains picnic and camping facilities, along with trails for hiking and horseback riding.

The Antelope Valley, with its high desert plain, buttes and hills, and alkali sinks, offers a great variety of opportunities for recreation. In the western portion of the valley, Antelope Buttes and Fairmont Buttes offer considerable potential for interweaving compatible recreation and natural resource preservation areas. In the east, this potential is presented by the unique landform and habitat areas surrounding the Saddleback Buttes State Park. The West Alpine Butte Wildlife Sanctuaries and the Antelope Valley Indian Museum State Park can also be found in this same area.

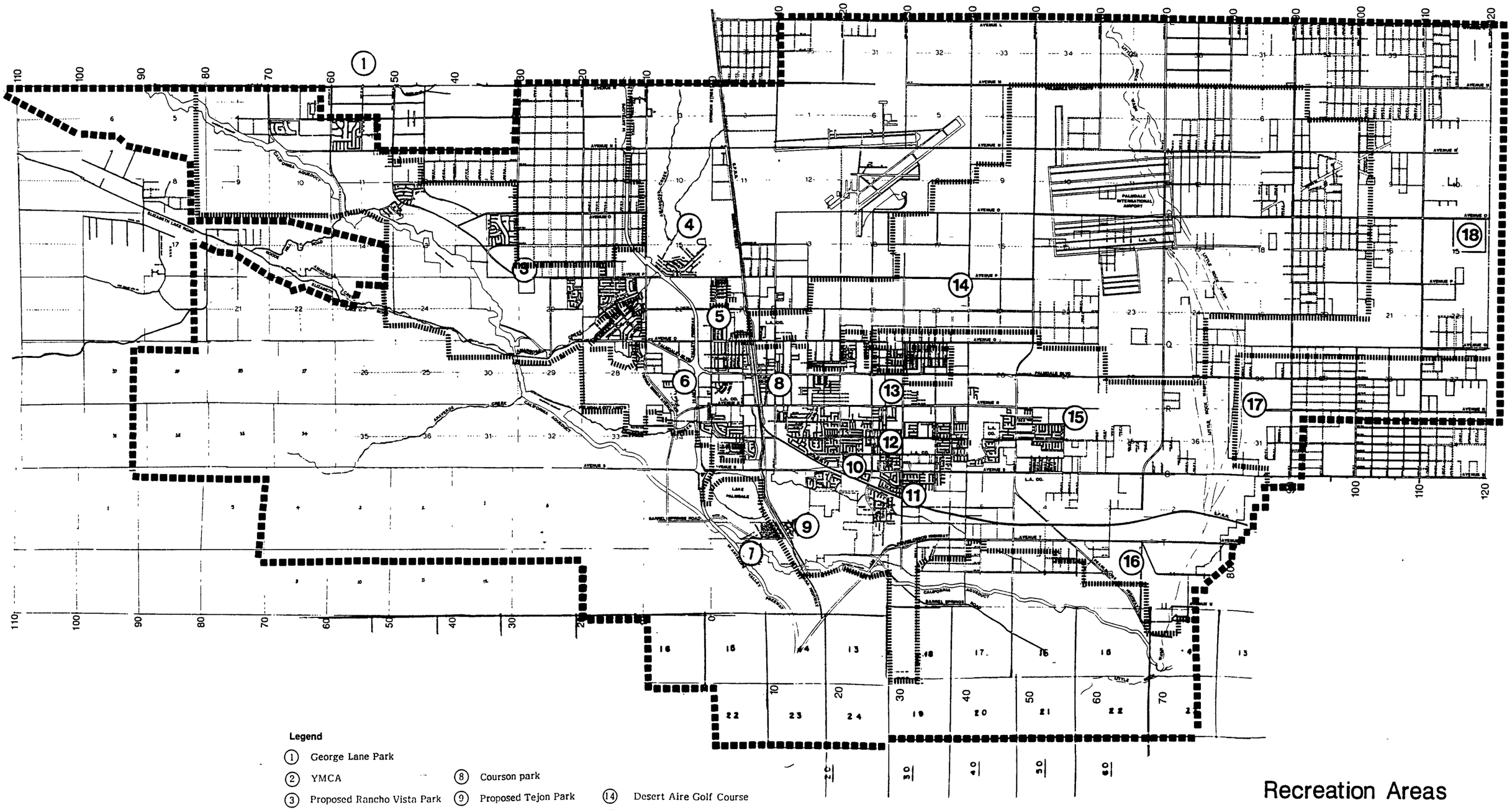
Local Parks

Palmdale has its share of city and neighborhood parks. An inventory of local parks in Palmdale is provided in Table 3-26 and Exhibit 3-39 shows their location.

TABLE 3-26

PUBLIC PARK FACILITIES

Park Name/Location	Size	Facilities
William J. McAdam Park west side of 30th Street East between Palmdale Boulevard and Avenue R	20 acres	1 swimming pool, 4 tennis courts 2 softball fields, 1 playing field, play lot, picnic shelters, volleyball court, horseshoe pits
Melville J. Courson Park northwest corner of 10th Street East and Avenue Q-12	7.5 acres	1 swimming pool, 1 basketball court, sand volleyball court, play lots, senior center, and multi-purpose center
Manzanita Heights Park northwest corner of 5th Street West and Mesa Verde Avenue	5 acres	picnic area, 2 play lots 1 playing field
Palmdale Cultural Center 6704 East Palmdale Boulevard	19,000 SF	auditorium and 3 meeting rooms
Desert Sands Park southeast corner of Avenue P-8 and East.	20 acres	2 lighted tennis courts, 2 lighted softballfields, 2 volleyball courts, 3rd Street soccer fields, play lots, picnic shelter/area, activity room, concession stand



Legend

1. George Lane Park
2. YMCA
3. Proposed Rancho Vista Park
4. Antelope Valley Country Club
5. Desert Sands Park
6. Manzanita Heights Park
7. Lamont Odett Vista Point
8. Courson park
9. Proposed Tejon Park
10. Avenue S Park
11. Joshua Hills School
12. Palmdale Park
13. McAdam Park
14. Desert Aire Golf Course
15. Desert Palms Park
16. Los Angeles County Raceway
17. Jackie Robinson Park
18. West Alpine Butte Wildlife Sanctuary

North

0 4000 8000 FEET

Recreation Areas and Facilities

Palmdale General Plan

Exhibit 3-39

TABLE 3-26 (continued)

Park Name/Location	Size	Facilities
Joshua Hills Park, beside Joshua Hills Elementary School	3.64 acres	1 play lot, 1 playing field
Palms Park, southwest corner of 55th Street East and Avenue R	40 acres	2 baseball fields, 2 softball play areas, play field, meeting room, concession stand
Avenue S Park northeast corner of Avenue S and 22nd Street East alignment	10 acres	(undeveloped)
Palmdale Park, west side of 29th Street East, north of Avenue R-10	2.5 acres	(undeveloped)
Rancho Vista, northwest corner of Avenue O-8 and Rancho Vista Blvd. plus three other sites	19+ acres	(not city property) proposed with Rancho Vista Specific Plan
Park site at 30th Street West and Avenue P	17 acres	sports fields, basketball courts, a picnic area, tot lot, amphitheater, and community building
Park site at 62nd Street East and Avenue S-8	20 acres	(undeveloped)
George Lane Park 5520 West Avenue L-8	15 acres	recreation building, game courts, picnic area, play lot, swimming pool
Jackie Robinson Park 8773 East Avenue R	9.24 acres	community building, picnic area, game courts
Desert Aire Golf Course Avenue P and 40th Street East	45 acres	9-hole golf course
West Alpine Butte Wildlife Sanctuary 120th Street East and	184 acres	hiking trails, camping grounds, equestrian trails, museum, shops, small animal zoo

Avenue O

TABLE 3-26 (continued)

Park Name/Location	Size	Facilities
Everett Martin Park 35548 North 92nd Street East	6.68 acres	swimming pool, bath house
Pearblossom Park 33922 121st Street East	7.81 acres	recreation building, game courts, picnic areas, play lots, outdoor stage

Source: Department of Parks and Recreation, City of Palmdale.

Aside from these parks, there are private facilities which serve the region. The Antelope Valley Country Club on Avenue O-8 is a private golf course. Lake Palmdale is a water reservoir but offers fishing and boating facilities to members of the Fin and Feather Club. The Palmdale Raceway near Little Rock Wash on Avenue T is a dirt track for off-road vehicles. The schools in the area also provide game fields, courts, and playgrounds to students, with prior arrangements made for use outside of school hours.

The City's ideal park land to population ratio is 2 acres of park per 400 persons (see Table 3-27). Using the parkland-to-population ratio, the current population estimates of 84,348 persons, according to 1992 census data would require at least 422 acres of public parks. Currently developed local public park facilities provide only 1.5 acres per 400 persons. This is less than the ideal ratio and indicates a need for the development of additional parks in the Planning Area. Future developments will be required to provide park facilities in accordance with city standards.

Trails
Palmdale General Plan

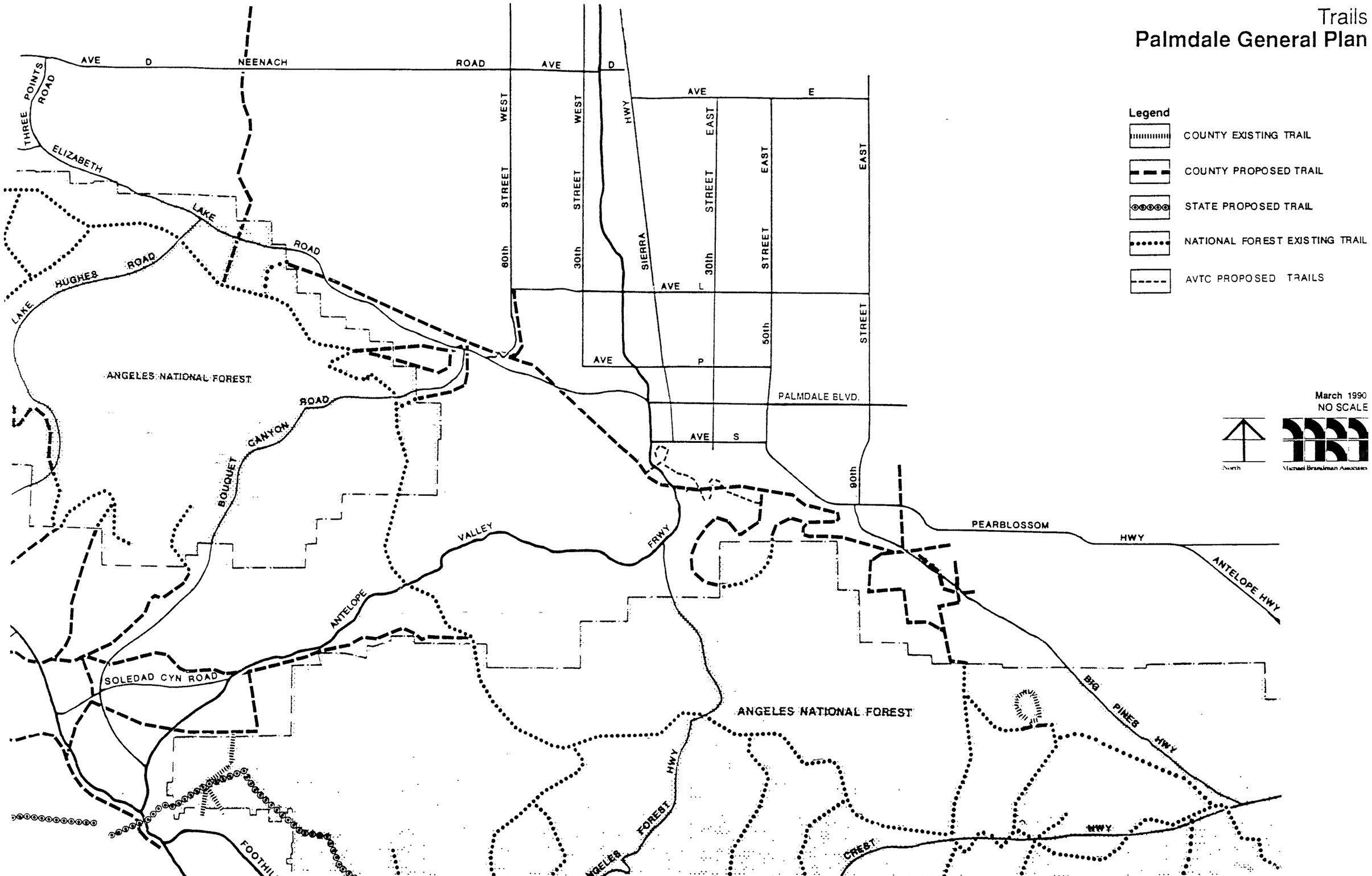


Exhibit 3-40

TABLE 3-27

PARKLAND ACREAGE STANDARDS

Dwelling Type	Assumed Density	Standard Acres/DU
Single-Family	4.0 persons/DU	2 acres/100 DUs
Duplex, Low-Density Apartments	2.5 persons/DU	2 acres/160 DUs
Medium and High-Density Apartments	2.0 persons/DU	2 acres/200 Dus

Source: Ordinance 505, Resolution 88-195, City of Palmdale.

The City requires park dedication fees from all residential development, per City Ordinance 505. This fund supports the acquisition of land and improvement of parks and recreational facilities in the City. Land dedication in lieu of park fees are accepted in certain instances.

Bikeways and Equestrian Trails

Bikeways are lanes specifically designated to accommodate bicycle riding. Many of these lanes are confined to road and flood control right-of-ways. Bikeway features depend upon their location, and many include adjacent facilities, such as fishing, swimming, overnight camping, picnicking, aquatic recreation areas, and rest stops.

There are existing bicycle lanes along the California Aqueduct bikeway (not currently open) which run parallel to the California Aqueduct from Quail Lake to San Bernardino County. Bikeways have also been approved along the Sierra Highway and Soledad Canyon Road, outside the city limits. Exhibit 3-32 shows existing and proposed bikeways in the Planning Area.

Most of the existing equestrian trails in the Santa Clarita and Antelope Valleys are part of the Angeles National Forest trail system. One other trail runs along the California Aqueduct throughout Los Angeles County, and is under the jurisdiction of the State of California. The California State Riding and Hiking Trail runs diagonally through the north county from the northwest to the southeast mostly in forest lands; it is routed along Sierra Highway, Escondido Canyon Road, Crown Valley Road, Soledad Canyon Road, and Arrastre Canyon Road where it crosses the two major forest areas.

The Los Angeles County Department of Parks and Recreation is currently studying the feasibility of proposed equestrian trails to link existing trails south and southwest of the Planning Area. Likewise, the Antelope Valley Trails Council has a master plan for equestrian trails in the valley. Both entities propose a network of trails along the foothills to connect with the Pacific Crest, Acton, and Santa Clarita trails. The trails will cross Palmdale on its southern end as shown in Exhibit 3-40.

In 1990, Los Angeles County adopted the North County Trails Plan which identifies a network of multi-use trails, some of which are proposed to pass through or near Palmdale. The Ritter Ranch and City Ranch Specific Plans incorporated the Northside Riding and Hiking Trail into their project designs as a component of the extensive onsite trails system each has proposed.

3.10.5 LIBRARY SERVICES

The Palmdale City Library is located in the Civic Center at 700 E. Palmdale Boulevard. The structure was built in the summer of 1977. The library has a 70,516-book collection in a building with a gross floor area of 12,400 square feet. It has 245 periodicals and 800 square feet of workroom space. It has 79 reader seats and 20.5 full-time equivalent staff. It is a full service library which offers book lending privileges, audio-visual materials, typewriters, microfiche, maps, braille books, videos, etc.

The library is open Mondays to Thursdays from 10 a.m. to 9 p.m. and Fridays and Saturdays from 12 noon to 5 p.m. The Spanish style building was built to accommodate 15,000 users. In 1991, the library had 310,254 patron visits and initiated a number of children's programs that were attended by several thousand children.

There are over 90,000 current users and the library averages over 1,000 new patrons per month. On average, the library receives over 1,800 visitors per day. Lunch and after school hours are the busiest times.

The city librarian uses standards for library service developed by the Wisconsin Department of Public Instruction (Wisconsin Public Library Standards 1988) which are as follows:

> The public library building should offer the community a compelling invitation to enter, read, listen, and learn. The library building should be flexible enough to respond to changing use and service patterns. Buildings should be expandable to accommodate collections growing in scope and variety of formats. Buildings should be designed for user efficiency (to encourage extensive public use), as well as for staff efficiency (to encourage economy, since staff costs are the major expense in library operation).
>
> The library's site should be readily accessible to all residents; travel time to the library should not exceed 15 minutes one way by car. Where travel times to the library's principal facility exceeds these limits, branches or outlets or alternative means of providing access (bookmobiles, books by mail) should be considered.
>
> Quantitative criteria for standard space and service are:
>
> - 2.5 volumes per capita
> - 8.5 periodicals per 1,000 population
> - 0.5 staff per 1,000 population
> - 5.0 reader's seats per 1,000 population
> - 1.0 parking spaces for every 2 adult seats, supplemented by additional parking space for all meeting rooms and staff
> - 125 square feet per staff for workroom space
> - 10 percent of the gross square footage of the library building should be devoted to storage space

There is no longer a national standard to project overall library size. The Wisconsin Public Library standard and current library building practice recommends determination of overall library size by individual space

requirements of the population and book collection. However, a rule of thumb for library size is 0.80 square feet per capita.

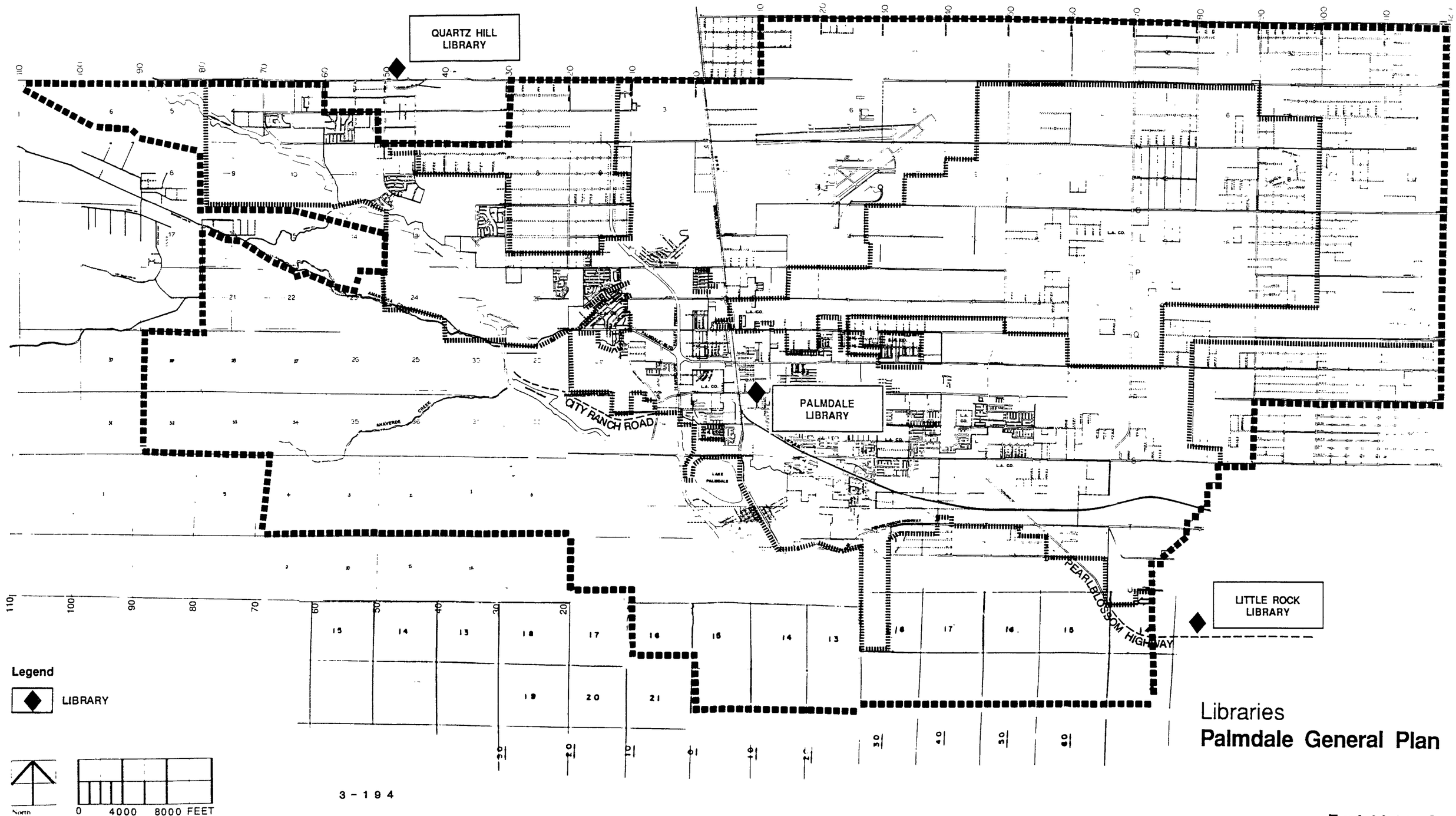
Palmdale has a 1992 population of 84,348 which translates to a need for 210,856 books, 703 periodicals, 42 staff persons, 421 reader seats, and 5,228 square feet of workroom space. Based on the rule of thumb cited above, 67,475 square feet is the desirable size of the library to serve the present population.

Comparing the desired figures with the existing facility shows that the City's library facilities have not kept pace with Palmdale's rapid growth. If present trends continue, patrons will increasingly find a lack of materials, seats, and staff.

Aside from the city library, there is a county library in Quartz Hill, northwest of the City, and another in Littlerock, southeast of the City, as well as one in Lancaster (see Exhibit 3-41). All three libraries are part of the county library system and have reciprocal agreements with the Palmdale Library. Visitors are granted borrowing privileges as long as they live within the county limits. In addition, three book mobiles operate in the Antelope Valley to serve outlying areas, including the Older American Special Information Service which serves the specialized needs of the elderly. A books-by-mail program serves the Antelope Valley with a 10,000-book collection.

The Littlerock Public Library is at 8135 Pearblossom Highway, and is the smallest library in the county system (1,650 square feet). It has one main table which seats six persons, nooks for four others, and a children's section that seats five. It carries a 15,000 volume collection, 115 periodicals, videos, LP records, audio cassettes, and has access to the 5 million volume collection of the county library system. It is staffed by one full-time librarian and five part-time helpers. Most users borrow materials for home use. Students often come after school to do their homework. An average of one or two patrons stay all day.

The Quartz Hill Public Library is located at 42018 50th Street West. It has a 75,000-book collection, audio and video cassettes, compact discs, and records. It seats a maximum of 30 adults and has a children's section that seats 15. It also has a community room for 100 persons.



Libraries
Palmdale General Plan

Exhibit 3-41

The Lancaster Library is at 1150 West Avenue J in Lancaster. This full-service library has 18,700 square feet of space with 50 adult seats and a meeting room for 190 persons. It has a 300,000-book collection, 1,000 periodicals, 450 films, 500 videotapes, 45,000 government documents, and 6,000 pamphlets. An average of 1,000 users come to visit the library each day. The staff consists of 1 librarian-in-charge, 6 librarians, 5 assistants, 12 part-time aides, and 12 part-time pages. Programs at the facility include story hours, film showings, crafts, puppet shows, and book sales. Children's programs include a weekly story hour and other monthly events (e.g., book mark contest, films). The library provides tutoring services for approximately 50 students. Some of the 48 tutors are volunteer elder residents. There are two full-time librarians and six part-time helpers. Afternoons are the busiest times when students and adults visit the library.

Computerization of the borrowing process has been implemented in some county libraries, and will be done for the entire county system. Construction needs include expansion to 57,000 square feet for the Lancaster library; Littlerock and Quartz Hill libraries ideally need 10,000 square feet each. Financing is expected to come from Proposition 85, a $75 million bond issue.

3.10.6 HOSPITALS

The Planning Area has one private hospital: Palmdale Hospital Medical Center. The Palmdale Hospital Medical Center is located at 1212 East Avenue S. The facility has 123 beds with 400 full-time and part-time employees and offers 24-hour emergency services. In 1988, the hospital added a Birth Center for pediatric and obstetric services. Other services include general medicine, intensive care unit, surgery, respiratory therapy, care unit for alcohol and drug dependents, laboratory services, psychiatric unit, gastroenterology laboratory CT scanner, cardiology, physical therapy, radiology, nuclear medicine/ultrasound, and urgent care.

Nearby hospitals include the Lancaster Community Hospital, High Desert Hospital, and the Antelope Valley Hospital Medical Center in Lancaster. The Lancaster Community Hospital is located at 43830 North 10th Street West. It has 132 beds with 600 full-time and part-time employees and offers most of the services offered at the Palmdale Hospital plus speech and occupational therapy. Also, it has a specialized heart center and a laser surgery center.

The High Desert Hospital is a 173-bed county hospital with 659 employees located at 44855 60th Street West. Aside from general medicine services, it offers oncology, dental, orthopedic, neuro-surgery, urology, and plastic surgery services. The Antelope Valley Medical Center is at 1600 West Avenue J. It is a district facility serving a 1,586 square mile area. It has 317 beds with 1,435 full-time and part-time employees and offers a wide range of services from a trauma center to speech care unit, open heart surgery to sexual assault response services. The hospital is in the process of expanding the obstetrics department to provide 80 additional beds.

There are three convalescent hospitals near the Planning Area - The Antelope Valley and Lancaster Convalescent Hospitals in Lancaster and the Mayflower Gardens Convalescent Hospital in Quartz Hill. Two clinics serve the area - the Kaiser Permanente Clinic and Sierra Clinic, both in Lancaster.

The High Desert Hospital is a 173-bed county hospital with 659 employees located at 44855 60th Street West. Aside from general medicine services, it offers oncology, dental, orthopedic, neuro-surgery, urology, and plastic surgery services. The Antelope Valley Medical Center is at 1600 West Avenue J. It is a district facility serving a 1,586 square mile area. It has 317 beds with 1,435 full-time and part-time employees and offers a wide range of services from a trauma center to speech care unit, open heart surgery to sexual assault response services. The hospital is in the process of expanding the obstetrics department to provide 80 additional beds.

There are three convalescent hospitals near the Planning Area--the Antelope Valley and Lancaster Convalescent Hospitals in Lancaster and the Mayflower Gardens Convalescent Hospital in Quartz Hill. Two clinics serve the area--the Kaiser Permanente Clinic and Sierra Clinic, both in Lancaster.

3.11 PUBLIC UTILITIES

3.11.1 WATER

Water Sources

Water resources available to provide water service to the City of Palmdale include reservoirs, dams, and groundwater wells. Water from runoff that percolates down through the soil is captured in underground aquifers, which store groundwater. Water withdrawn from aquifers is usually replenished through the percolation process. Overdrafting of aquifers (groundwater withdrawal beyond the rate of natural replenishment) causes the groundwater table to lower. Lowering of the groundwater table can lead to subsidence of the land, contamination of the water, and other deleterious effects.

In order to supplement groundwater supplies, the State Water Project (SWP), which consists of a network of underground and open aqueducts to transport water from northern California south, was constructed to provide additional water to urban and agricultural users. Water from the SWP is variable depending on drought conditions, and as such, reciept of the full entitlement cannot be assured.

The overdrafting of groundwater prompted water purveyors (Antelope Valley-East Kern Water Agency, Palmdale Water District in Palmdale, and Little Rock Irrigation District) to participate in the State Water Project. The intent of purchasing Project water was twofold: to supplement the existing local water supply with imported water and assure the recharge of the groundwater supply.

Table 3-28 summarizes Palmdale's water entitlement to date.

The total State Water Project entitlement to the Palmdale Planning Area is 158,000 acre-feet per year. In 1987, AVEK used 45,545 acre-feet of water or 33 percent of its entitlement. PWD used approximately 4,814 acre-feet of water or 27.8 percent of its entitlement.

TABLE 3-28

WATER ENTITLEMENT

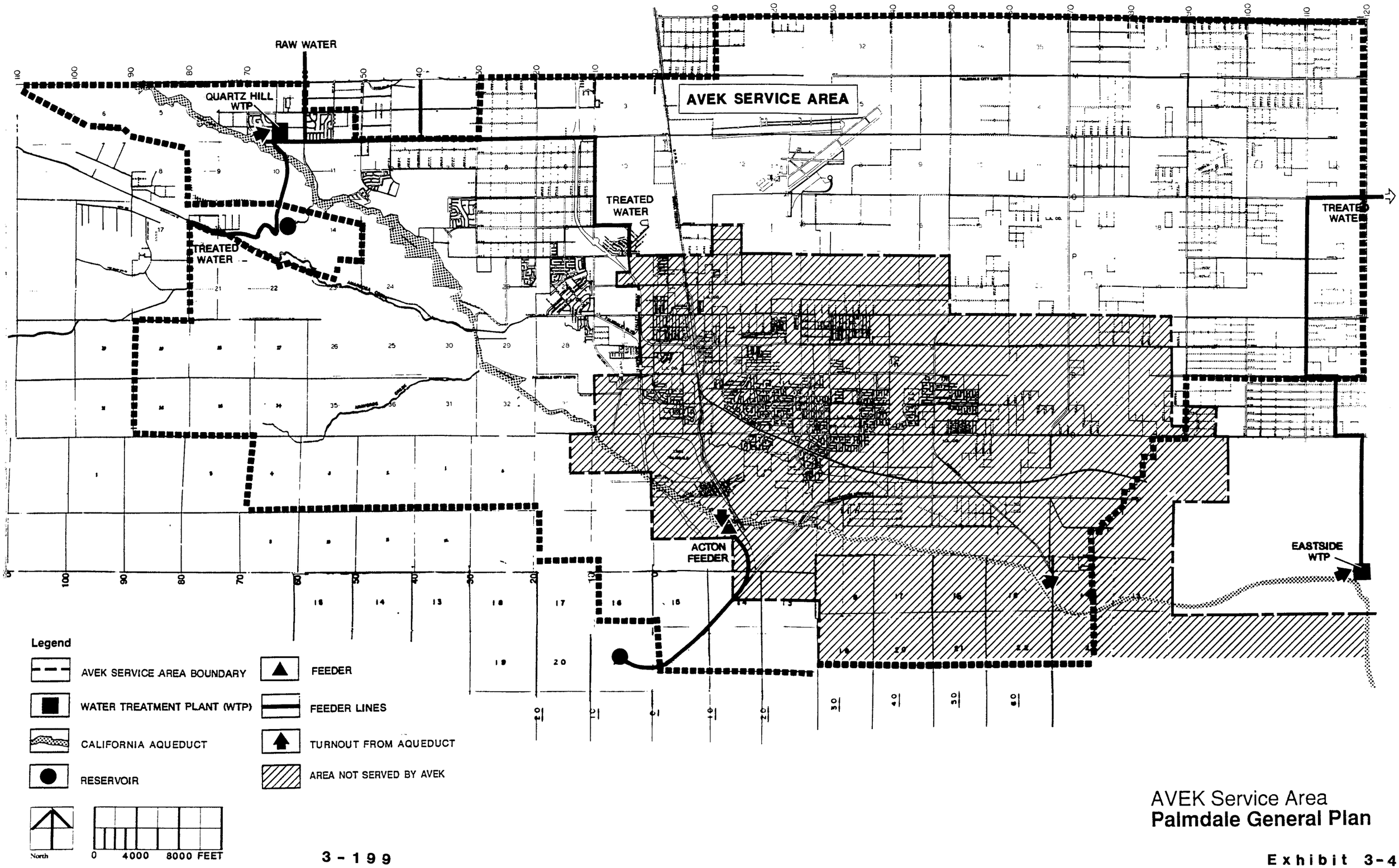
Agency	Water Entitlement (acre-feet per year)
Antelope Valley-East Kern Water Agency (AVEK)	138,400
Palmdale Water District (PWD)	17,300
Little Rock Irrigation District	2,300
Total	158,000

The Antelope Valley East Kern (AVEK) Water Agency buys water from the State Water Project and provides treated water on a wholesale basis to most local water districts in Palmdale. It serves 2,300 square miles of Kern County, Antelope Valley, and other areas north of the San Gabriel Mountains. The AVEK service area and transmission lines are delineated in Exhibit 3-42. The agency has a maximum entitlement of 138,400 acre-feet per year from the California Water Project. In 1991, 9,600 acre-feet of water was delivered, which is 37 percent of the entitlement. This amount will increase as growth continues and as water is available. The state project

has only provided half of its total entitlements to date due to limited water supply. No additional sources of water are being developed at present. As a result of drought conditions for the past 4 years, the AVEK water allotment from the California Aqueduct has been temporarily reduced to 39,000 acre-feet per year. If drought conditions persist, this allotment could be reduced to the 1985 level when Palmdale did not receive any water from the state project. If state water project water becomes limited, Palmdale will become more heavily reliant on local groundwater sources. With even more pronounced overdrafting, extraction costs for groundwater could increase drastically; and property rights may have to be assigned for local resources. Ensuring an adequate supply of water, given projected growth rates and the potential for drought conditions, may require the City to adopt and enforce water conservation measures.

Water Consumption

An estimate of existing water consumption for residential, commercial, industrial, and public facilities development in Palmdale is provided in Table 3-29. Existing residential development in Palmdale is based on the 1992 Department of Finance estimate. Nonresidential development estimates are based on MBA's 1989 land use survey as updated by city staff in 1992. Floor area ratios (the amount of total building square footage compared to the square footage of a lot) of 0.25:1 for commercial, 0.5:1 for industrial and 0.1:1 for public facilities were used to approximate land use densities for future development.



AVEK Service Area
Palmdale General Plan

Exhibit 3-42

TABLE 3-29

ESTIMATED EXISTING WATER CONSUMPTION

Land Use	Existing[a] Development	Consumption Factor[b]	Estimated Total Consumption (mgd)[c]
Residential	29,348 du	400 gpd/du	11.7
Commercial	6,913 ksf[d]	120 gpd/ksf	0.8
Industrial	40,119 ksf[d]	120 gpd/ksf	4.8
Public Facilities	2,152 ksf[d]	120 gpd/ksf	0.3
Total Consumption			17.6

[a] Residential development based on 1992 staff estimate. Non-residential development based on MBA land use survey (1989; updated by staff in 1992) and using approximate floor area ratios as follows: commercial (0.3:1) industrial (0.5:1) and public facilities (0.1:1).

[b] Consumption factors based on City of Los Angeles Waste Water Program Sewage generation ratios, increased by a factor of 20 percent for water consumption. Residential factor is for single-family residential units.

[c] mgd = million gallons per day.

[d] ksf = thousand square feet.

Source: Michael Brandman Associates 1990.

Water Treatment

The California Department of Health requires full treatment of raw water from the State Water Project. For this purpose, AVEK has constructed the Quartz Hill and the Eastside Water Treatment Plants. Presently, the Quartz Hill Treatment Plant at 65th Street West and Avenue N can accommodate 65 million gallons daily (mgd) with a potential to expand to 73 mgd. The Eastside plant at 116th Street East and Avenue V-8 is currently working at its planned maximum capacity of 10 mgd with no plans for expansion. The Acton Water Treatment Plant has recently been constructed on a 20-acre site where the California Aqueduct crosses Sierra Highway.

The plant processes 4 mgd to serve the needs of Acton residents and could upgrade to 8 mgd within the existing site. The plant site is within the Palmdale Water District (PWD) service area and PWD has a main feeder one-half mile from the site. This will make it possible for AVEK and PWD to have interdistrict links for water exchange if they choose to do so. AVEK promotes an "In-Lieu Usage" water conservation program. By making surface water prices competitive with well water prices, AVEK hopes to encourage the use of surface water thereby conserving aquifer reserves.

Water Suppliers

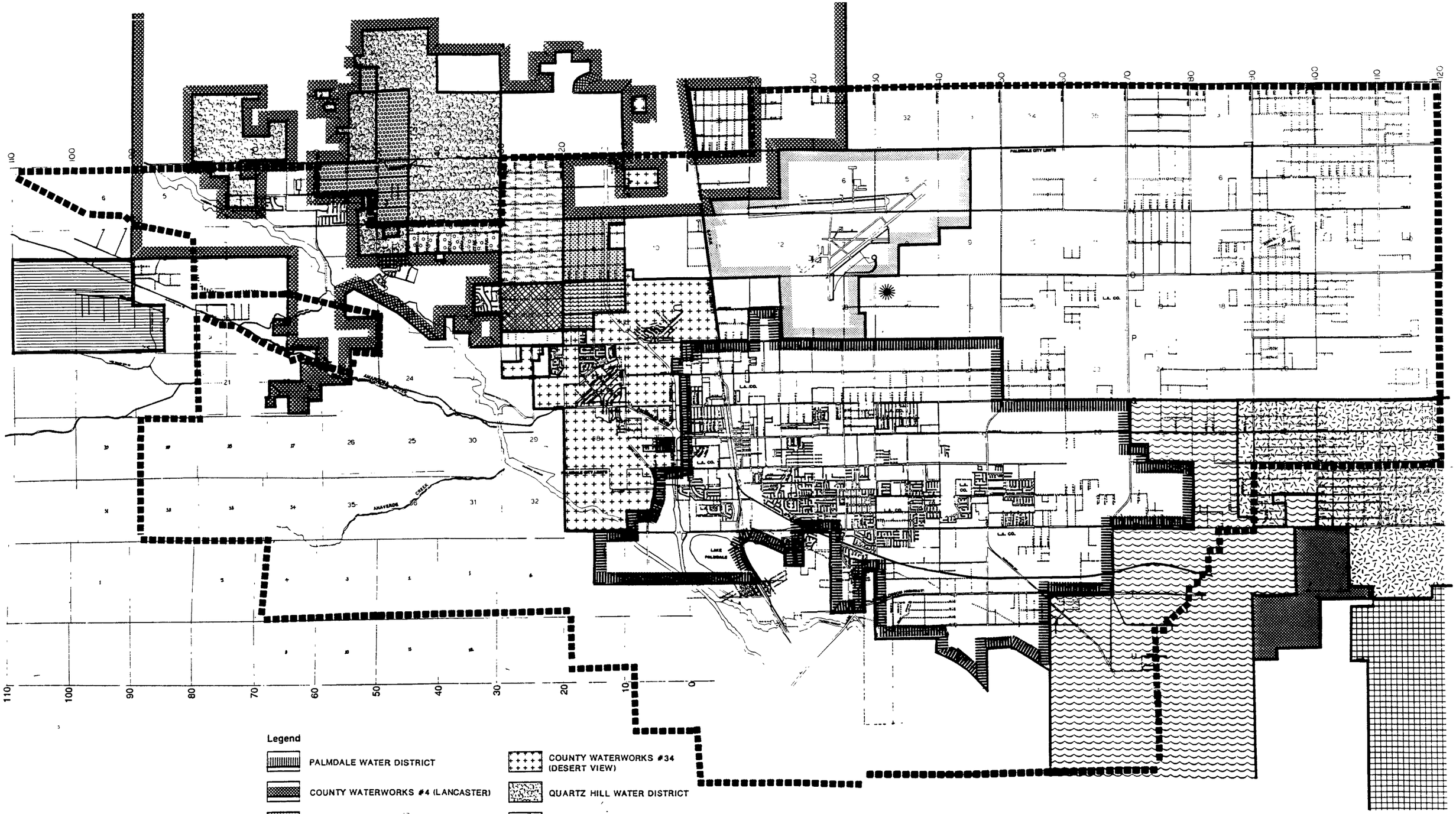
Water is provided to the Planning Area by both public and private water companies. Isolated developments have private wells and vacant areas are unserved (see Exhibit 3-43).

Domestic water for residential and commercial uses in Palmdale is provided by the Los Angeles County Waterworks Districts, the Palmdale Water District, and independent water companies. While some companies buy water from AVEK, the Palmdale Water District (PWD) has a direct entitlement of 17,300 acre-feet per year from the State Water Project, and Littlerock Irrigation District for a direct entitlement of 2,300 acre-feet per year.

The County Waterworks Districts 4, 33, and 34 provide water to the northwest, west, and southeast portions of the Palmdale Planning Area. County Waterworks Districts 24 and 27 provide water to the southeastern portion of the Planning Area (see Exhibit 3-43). The present facilities of County Waterworks Districts are designed to accommodate existing developments; future developments will require expansion of existing facilities.

Water is bought from the Antelope Valley East Kern Water District (AVEK) and is pumped from an extensive system of groundwater wells for Districts 4 and 34, and from 9 wells for Districts 24, 27, and 33. Water from AVEK is bought wholesale according to the needs of the district.

Combined Districts 4 and 34, water from AVEK comes from a turnout at 10th Street West and Avenue N. Districts 4 and 34 have a monthly maximum delivery of 1,100 million gallons, with an average of 706 million



Legend

- PALMDALE WATER DISTRICT
- COUNTY WATERWORKS #4 (LANCASTER)
- PALM RANCH IRRIGATION DISTRICT
- USAF PLANT 42
- LITTLE ROCK CREEK IRRIGATION DISTRICT
- COUNTY WATERWORKS #33 (SUN VILLAGE)
- COUNTY WATERWORKS #27 (LITTLEROCK)
- COUNTY WATERWORKS #34 (DESERT VIEW)
- QUARTZ HILL WATER DISTRICT
- WHITE FENCE FARMS WATER COMPANY
- SUNNYSIDE FARMS WATER COMPANY
- WESTSIDE PARK MUTUAL WATER COMPANY
- EL DORADO WATER COMPANY
- COUNTY WATERWORKS #24 (PEARLBLOSSOM)
- LEONA VALLEY WATER DISTRICT
- ROCKWELL INTERNATIONAL
- SHADOW ACRES MUTUAL WATER COMPANY
- PRIVATE WATER SERVICE OR NO SERVICE

North

0 4000 8000 Feet

Service Areas
of Water Companies
Palmdale General Plan

Exhibit 3-43

per month for 29,689 service connections. District 4 serves the northwest portion of Palmdale, Quartz Hill, and Lancaster. It has 28 groundwater wells aside from the water bought from AVEK. Two other wells are in the planning stages. At the Avenue L-22 and 60th Street West turnout, 5,135 acre-feet was bought by District 4 to serve areas in Lancaster, Quartz Hill, and the westside of Palmdale in fiscal 1989. At the Avenue M-8 and 60th Street West turnout, only 197 acre-feet were bought by District 4 for use by Palmdale residents. Approximately 46 percent of District 4 water was groundwater and the remaining 54 percent came from the State Water Project.

Districts 24, 27, and 33 serve the small portions of the City with water bought from AVEK. These districts provided 508 million gallons to 2,394 service connections in 1991.

A community facilities district was set up recently by the county to ensure adequate water service to developments planned for the west side. This involves 23 private developments with 3,500 homes in the area west of the Antelope Valley Freeway. The County Waterworks District #34 will acquire 16.63 acres of land for the improvement of its water system. Development companies will build the service system and turn it over to the county to maintain and operate. Three new storage tanks, one with a 100,000 gallon capacity and two with 2 to 2.8 million gallon capacities are to be constructed at the developers' expense. A pump station will also be constructed at Tierra Subida Avenue to serve the participating developments.

The Palmdale Water District (PWD) serves the urban area of the City. It covers approximately 29 square miles of the most densely populated blocks in Palmdale. It serves 22,354 service connections. The district has no immediate plans to expand its service area. The PWD has rights to 17,300 acre-feet of water from the California Water Project. It buys water directly from the California Aqueduct, using a maximum 652 million gallons monthly in 1991. Water from the aqueduct cost the district $50 per acre-foot of untreated water and $123 per acre-foot of treated water.

Aside from water from the aqueduct, the district has numerous groundwater wells and two surface sources. The PWD owns Lake Palmdale Reservoir, with a capacity of 4,250 acre-feet, as well as rights to water in Little Rock Reservoir which has a capacity of 4,700 acre-feet. The latter reservoir serves the Little Rock Creek Irrigation

District. A 12 million gallon capacity treatment plant for flocculation, sedimentation, filtration, and disinfection was added recently to the system, as well as 5 storage reservoirs with a total capacity of 16 million gallons.

Independent water companies serve outlying areas in Palmdale. The Land Projects Mutual Water Company has three wells which pumped 153 million gallons of water in 1991. It serves 423 connections. It does not buy water from AVEK.

The Palm Ranch Irrigation District serves part of Quartz Hill. It has three groundwater wells and buys water from AVEK. In 1991, it sold 385 million gallons of water. It has 1,600 meters, serving 5,350 residents. It does not purchase water from outside sources.

The USAF Plant 42 has five provision wells and eight drinking wells to serve the buildings within its property. The Plant pumped approximately 309 acre-feet of water in fiscal 1989.

White Fence Farms Mutual Water Company provides water to a 480-acre site between Avenue N and Avenue N-8, and 30th Street West to 45th Street West. It sold 195 million gallons of water in 1991, most of which came from groundwater pumping. It serves 400 connections.

The Quartz Hill Water Company has five wells onsite and buys water from AVEK. In 1991, the company sold 992 million gallons of water to 3,500 to residential and commercial customers.

Little Rock Creek Irrigation District has 1,152 water meters and serves the Littlerock area. It has eight wells that provide the water for its consumers. In 1991, the district distributed 503 million gallons to residential and agricultural customers. Investigations on excessive nitrate concentrations in its seven wells were conducted in 1988. The water pollution is attributed to failing septic tanks in the area. As with the larger companies, groundwater wells and AVEK are the main sources.

Sunnyside Farms, El Dorado, and Shadow Acres are among other water companies which serve independent tracts in the Planning Area. As with the larger companies, groundwater wells and AVEK are the main sources of water.

Private wells are also used by a number of residences and businesses in scattered areas throughout the City. In addition, there are private haulers who buy water from the County Waterworks District and other water companies, and bring it to households and other uses without existing water system connections or wells.

3.11.2 SEWER

Sewer service in the City is provided by the Los Angeles County Sanitation District Nos. 14 and 20. District 20 serves the City's urban core and the northeastern portion of the Planning Area, while District 14 serves the northwestern portion of the Planning Area, Quartz Hill, Lancaster, and private septic tank haulers. The USAF Plant 42 has its own sewer system (see Exhibit 3-44).

District 20's 200-acre treatment plant is located between Avenue O, Avenue Q, 30th Street East, and 50th Street East. It has a 8 million gallon capacity and processes 6.7 million gallons of sewage per day through a surface aeration process. Exhibit 3-45 shows historical processing rates at the plant. The existing facility includes storage tanks, digestors, clarifiers, oxidation ponds, and evaporation-percolation disposal ponds in two adjacent sites. Expanded service capacity will allow treatment of up to 9.2 million gallons per day at this plant.

Approximately 3 dry tons per day of raw sludge resulting in 1 dry ton per day of digested sludge is produced at the treatment plant. The sludge is air-dried and composted onsite. The district has recently signed a contract with the Mira Loma detention camp to utilize the district's sludge for biogas plants in the camp. Sludge is also available to local agricultural interests. The District disposes of processed wastewater through a contract with the Palmdale International Airport to irrigate the surrounding area that is presently used for light agriculture. An alternate method of wastewater disposal would have to be implemented when the airport site develops.

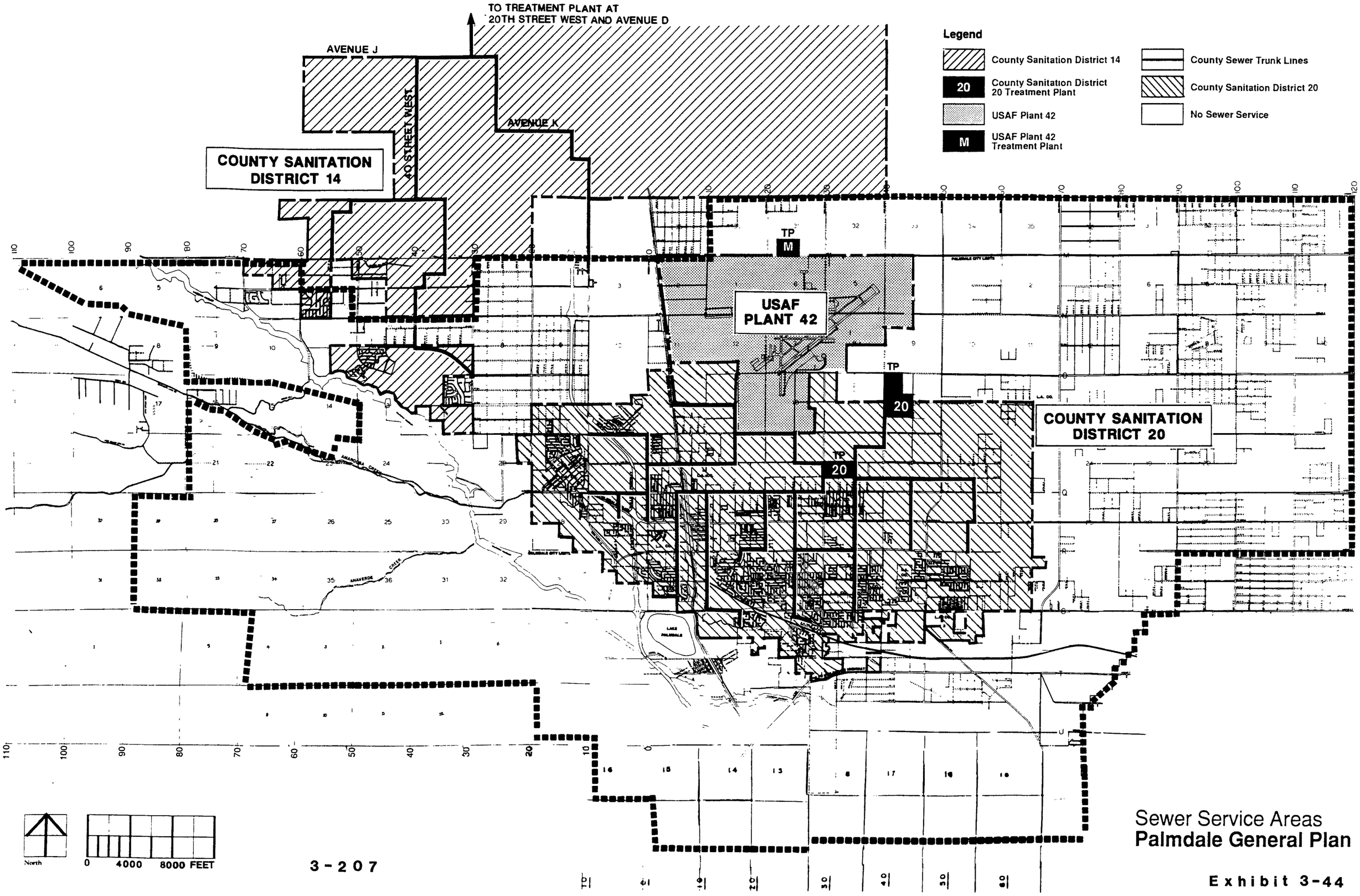
District 14's treatment plant is located on a 350-acre site at 20th Street West and Avenue D, between Sierra Highway and the Antelope Valley Freeway in Lancaster. It processes 7.5 million gallons of sewage per day and is permitted to expand to 15 million gallons per day (mgd) by 1994. Sewage goes through a surface aeration process, using oxidation ponds.

In addition to sewage coming from the district's trunk lines in Lancaster and Quartz Hill, District 14 accepts private septic tank haulers. There are nine private companies in the Lancaster/Palmdale area who service households and businesses with private septic tanks and cesspools. They collect sewage and bring it for processing at the District 14 plant. The county charges the private septic tank haulers $20 per load of 2,000 gallons and $35 per load in excess of 2,000 gallons.

Sludge production at the District 14 plant is calculated at 4 dry tons per day of raw sludge and 2 dry tons per day of digested sludge (solids). The digested sludge is air dried and composted onsite and is available to local agricultural interests. District 14 reuses wastewater for the irrigation of agricultural fields. The farmer/owner pays for the pumping costs and the installation of pipelines to connect the district's ponds to his field. District 14 is undergoing expansion to increase the plant's capacity to 15.0 million gallons to meet the demands of Palmdale, Lancaster, and the surrounding area.

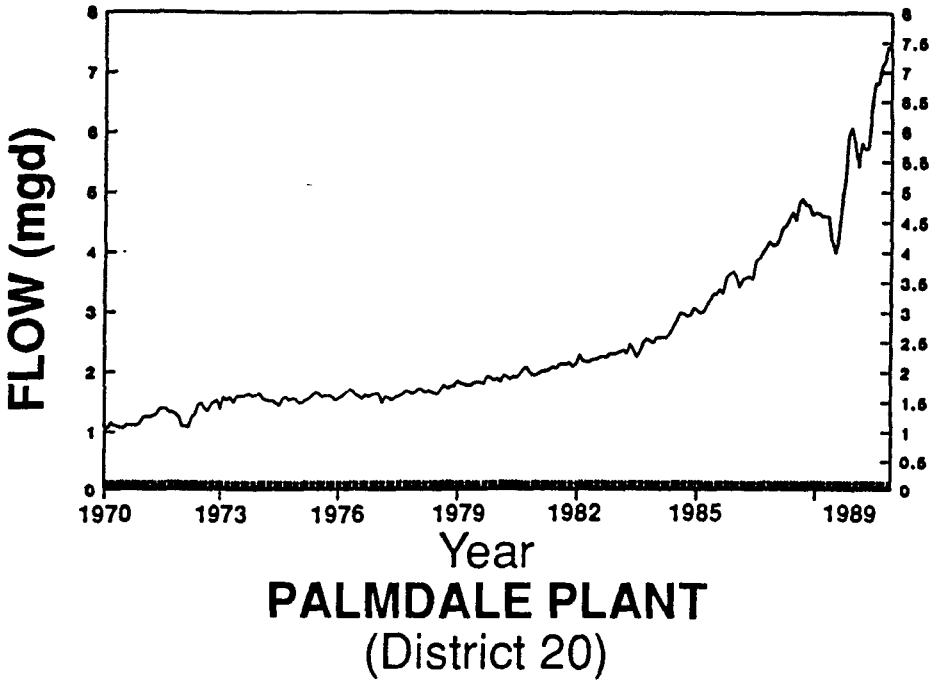
Previously referenced Exhibit 3-44 shows the location of sewage treatment plants and service areas in the Palmdale Planning Area. The areas outside of the Los Angeles County Sanitation District boundaries are currently not served by a sewer system and thus must rely on septic tanks. The Los Angeles County Department of Health Services and State Water Quality Control Board regulates septic tanks. The County Sanitation District will annex these areas when demand is great enough to warrant the expansion of existing district boundaries. The City requires all new multiple family, commercial, industrial, and single-family development on lots of less than one acre to annex to the district and connect to a public sewer system.

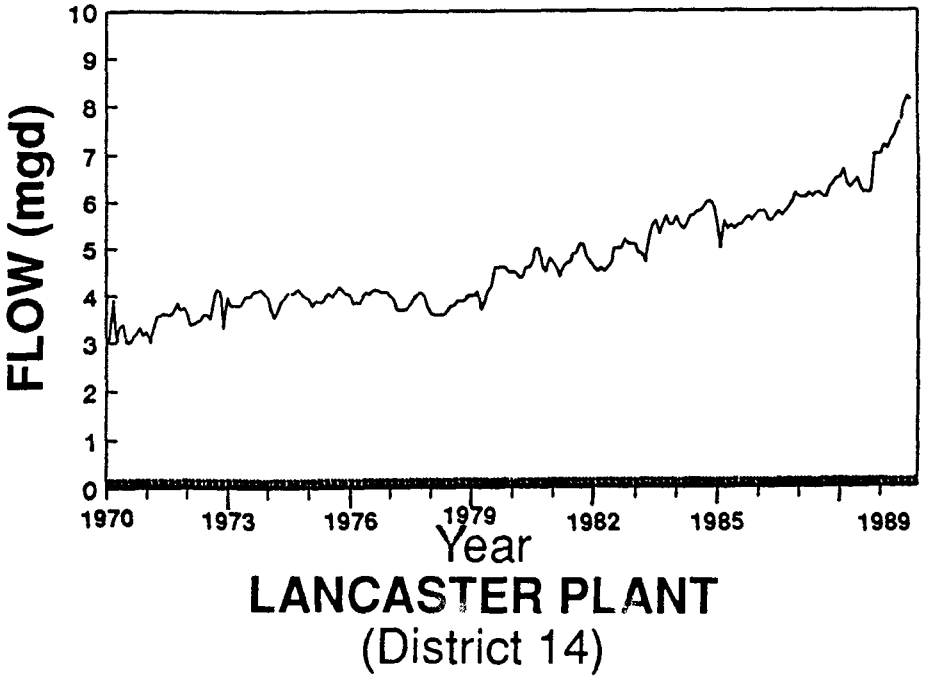
Developers are responsible for construction of onsite sewage facilities and connection to the Los Angeles County Sanitation District sewer trunk lines. Developers pay an annexation fee and the cost of needed to serve their development. The connection fees charged for tapping these lines are placed into a special fund which is used



Sewer Service Areas
Palmdale General Plan

Exhibit 3-44





Source: Los Angeles County Sanitation Districts

No Scale

North

Historical Sewer Influent Flow
Palmdale General Plan

Exhibit 3-45

to finance future treatment plant expansions. This makes most districts self-financing and allows them to expand their services according to the growth pressures of the area.

Requirements for sewer treatment plant capacity may be calculated at a sewage generation rate of 120 gallons per capita per day on a project specific basis, calculations in Table 3-30 can be used to determine sewage generation. Projections of future sewage production in the City using population forecasts have proved inadequate in the past. Thus, the district conducted growth studies based on additional data. These growth studies project the future demands for wastewater treatment based on historical flow trends. Table 3-31 and Exhibit 3-46 shows effluent flow projections for the year 2010 assuming that all future development in the Planning Area is served.

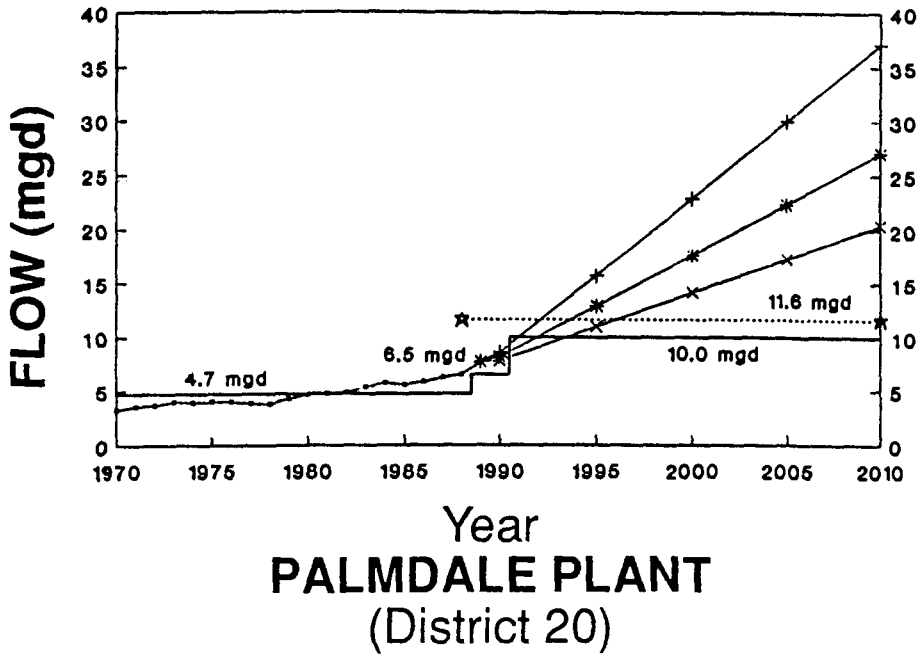
As much as possible, the district provides excess capacity to allow lead time for the expansion of facilities. District 14 will expand from 10.0 mgd to 15 mgd and District 20 from 8 mgd to 9.2 mgd, on line by late 1991. Other expansions will proceed according to growth trends, with the connection fee program financing the expansions.

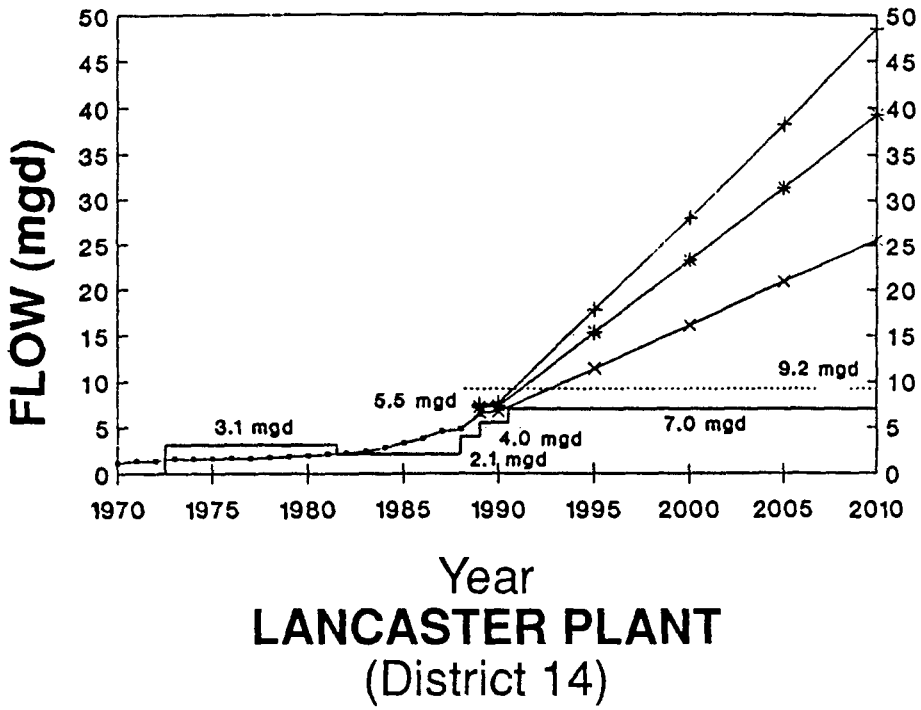
The USAF Plant 42 on the northern portion of Palmdale has its own sewer system. It exclusively serves the buildings on its property and has a treatment plant at 25th Street East and Avenue M. It processes an average of 150,000 gallons per day and has a capacity of 700,000 gallons, peaking at 1 million gallons per day. Sewage is processed in settling basins for surface aeration and sludge is stockpiled onsite. The treatment plant capacity was planned for maximum development onsite and sewer lines are extended according to the needs of new buildings at the facility.

TABLE 3-30
SEWER LOADINGS FOR EACH CLASS OF LAND USE

Land Use	Unit of Measure	Sewer Flow (gallons per day)	Suspended Solids (pounds per day)
Residential			
Single-Family Home	Parcel	260	0.59
Duplex	Parcel	312	0.70
Triplex	Parcel	468	1.05
Fourplex	Parcel	624	1.40
Condominiums	Parcel	156	0.35
Single-Family Home (reduced rate)	Parcel	156	0.35
Five Units or More	No. of Dwelling Units	156	0.35
Mobilehome Parks	No. of Spaces	156	0.35
Commercial			
Hotel/Motel/Rooming House	Room	125	0.28
Store	1,000 sq ft	100	0.23
Supermarket	1,000 sq ft	150	1.00
Shopping Center	1,000 sq ft	325	1.17
Office Building	1,000 sq ft	200	0.45
Professional Building	1,000 sq ft	300	0.68
Restaurant	1,000 sq ft	1,000	5.00
Indoor Theater	1,000 sq ft	125	0.28
Car Wash			
Tunnel Type	1,000 sq ft	3,700	8.33
Wand Type	1,000 sq ft	700	1.58
Financial Institution	1,000 sq ft	100	0.23
Service Shop	1,000 sq ft	100	0.23
Animal Kennels	1,000 sq ft	100	0.23
Service Station	1,000 sq ft	100	0.23
Auto Sales/Repair	1,000 sq ft	100	0.23
Wholesale Outlet	1,000 sq ft	100	0.23
Nursery/Greenhouse	1,000 sq ft	25	0.06
Manufacturing	1,000 sq ft	200	0.70
Dry Manufacturing	1,000 sq ft	25	0.09
Lumber Yard	1,000 sq ft	25	0.09
Warehousing	1,000 sq ft	25	0.09
Open Storage	1,000 sq ft	25	0.09
Drive-In Theater	1,000 sq ft	20	0.05
Night Club	1,000 sq ft	350	0.79
Bowling/Skating	1,000 sq ft	150	0.55

Source: Los Angeles County Sanitation Districts.





Legend

- historical flow
- 12 mo. regression
- 24 mo. " "
- 36 mo. " "
- permited capacity
- Env. documentation

Source: Los Angeles County Sanitation Districts

No Scale

North

Sewer Flow Projections
Palmdale General Plan

Exhibit 3-46

TABLE 3-31

SEWER FLOW PROJECTION

	District 20	District 14	Total Flow (mgd)
Current Capacity	8.0	10.0	18.5
Planned Expansion	9.2	15.0	24.2
2010 Projections:			
12-month regression	50.0	37.0	87.0
24-month regression	40.0	27.0	67.0
36-month regression	26.0	21.0	47.0

Source: Los Angeles County Sanitation Districts.

3.11.3 SOLID WASTE

The City of Palmdale currently issues permits to up to six disposal companies for commercial/industrial solid waste pick up. Presently, Waste Management, Blue Barrel Disposal, Antelope Valley Rubbish, Foothill Rubbish, G.I. Rubbish, and Larry Rubbish Pick-up Service may set their own rates and compete for commercial/industrial customers. The commercial/industrial rubbish haulers utilize both the Antelope Valley Landfill and the Lancaster Landfill (Waste Management).

Solid waste disposal in Palmdale is presently handled by a private company, the Palmdale Disposal Company which operates a dry landfill site, the Antelope Valley Landfill, at 1200 West City Ranch Road (see Exhibit 3-47). The landfill has served residential and commercial establishments in the City for 35 years. The site covers

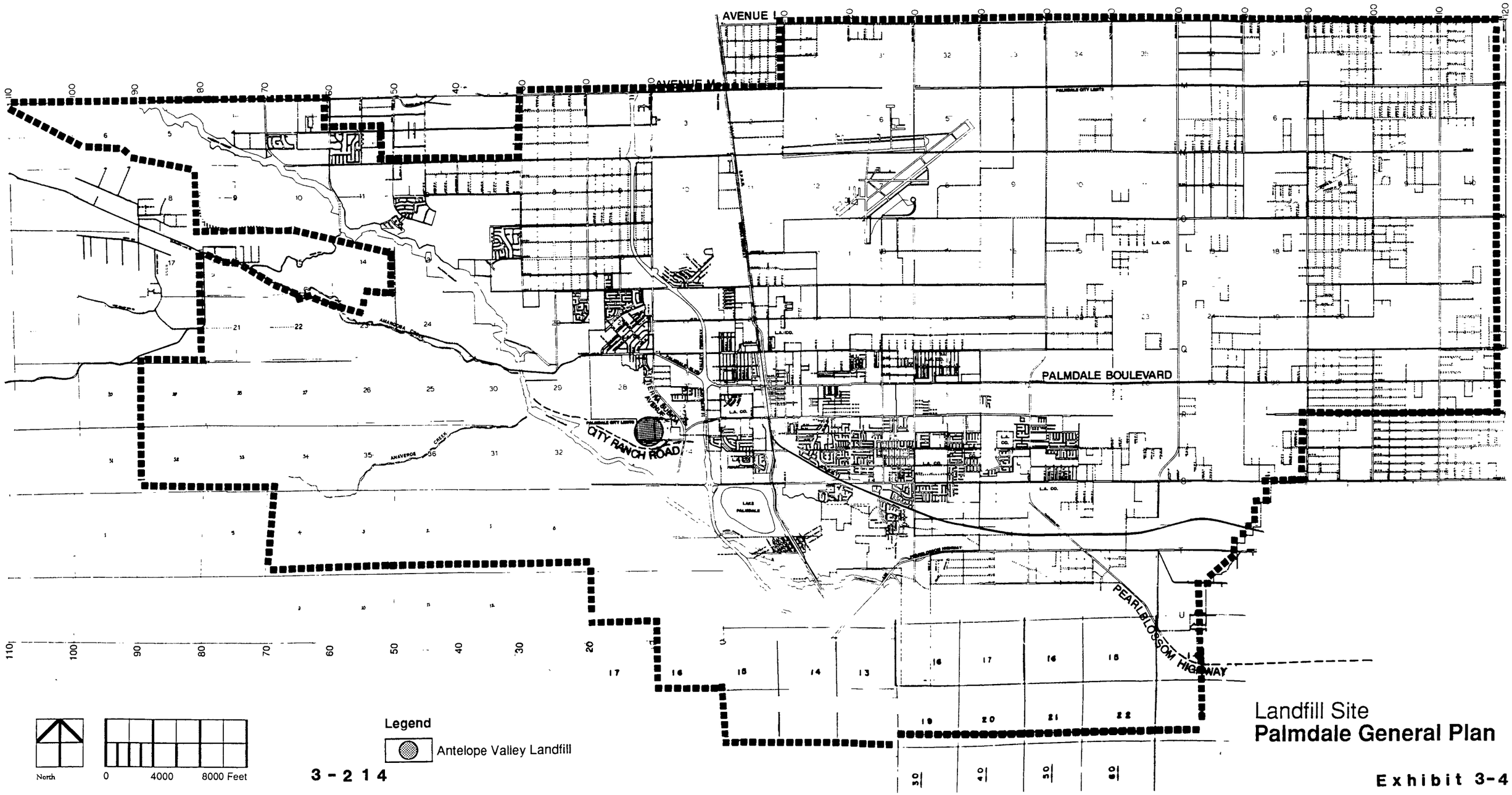
approximately 65 acres of land and is expected to reach capacity by 1996. The landfill takes in garbage from surrounding areas in the Antelope Valley. It does not accept any liquid waste or sludge.

In Palmdale alone, over 20,000 households and commercial businesses are served by the landfill, aside from private haulers who are charged a fee according to the type and volume of garbage brought in. The present site has a remaining capacity of approximately four years and a conditional use permit was recently approved by Los Angeles County allowing the landfill to expand to an adjacent 75-acre lot. The expansion site will hold approximately 105 million tons of solid waste.

The Lancaster Landfill is a Class III landfill, and is expected to reach capacity in 1996. It does not have the capacity to handle the future waste generation demands of its own service area. If the Lancaster site closes, the Antelope Valley Landfill would have to serve a wider area and would result in a sooner closure date. Other landfills in the region are reaching capacity which further influences dumping activities at the Palmdale site. The fee structure for waste disposal influences the decision of private haulers to dump in Palmdale rather than another site. If the fees are comparatively lower, more private haulers and dumpsters may use the Antelope Valley Landfill and the site will fill up faster. If other landfills close, haulers may divert solid wastes to the Palmdale site as long as it continues to accept private haulers.

Expansion of the present landfill would assure that the Planning Area can meet its future waste disposal needs. However, as of February, 1990, the potential environmental impacts of the project on surrounding land uses, the future use of the site, and possible soil and groundwater contamination have not been resolved and the expansion has not been approved.

As part of the City of Palmdale's Integrated Waste Management Plan, a generation forecast of solid waste through the year 2005 was prepared. In 2005, the City is projected to generate a total of 191,917 tons per year. This forecast is a pre-program projection which does not assume successful source reduction or recycling. The City's recently adopted Integrated Waste Management Plan authorizes a city-wide plan to recycle up to 25 percent of all solid waste generation by 1995 and 50 percent by the year 2000. If the City is successful in its recycling programs, 2005 waste generation would only be 95,958 tons. If source reduction (recycling) programs



Landfill Site
Palmdale General Plan

Exhibit 3-47

meet their goals, the Antelope Valley Landfill will have adequate capacity to meet the City's needs beyond the year 2010. If the City is not successful in its source reduction efforts, addition solid waste disposal site could be needed within the life of the City's general plan.

3.11.4 STORM DRAINAGE

Rainfall in the Antelope Valley is relatively sparse due to its location on the leeward side of the Sierra Pelona and San Gabriel mountains. The average annual rainfall is 5.15 inches in Palmdale and 19 inches in the mountains.

Although no major flooding is expected in the Planning Area, intermittent flooding and sheetwash occur along major drainages and adjoining areas on scattered sites. Areas with flood hazards are the natural drainage channels of Amargosa Creek, Anaverde Creek, Little Rock Wash, and Big Rock Wash (see previously referenced Exhibit 3-15). Flat plains and natural depressions are also subject to possible flooding.

1. Amargosa Creek - This creek collects runoff from the northern face of the Sierra Pelona mountains and the southern slope of both Portal and Ritter Ridges. It travels the length of Leona Valley, beginning at the mouth of the San Francisquito Canyon and enters Palmdale along Elizabeth Lake Road, in the vicinity of the intersection of 25th Street West and Avenue Q. The creek travels north to Avenue K, where it is divided into two flows. The western flow is concentrated at 20th Street West and Avenue J in a channel constructed for the Antelope Valley Freeway. It continues toward the north, running parallel to the freeway, to a retention basin located near the intersection of Avenue G and 20th Street West. The second flow is diverted to the east of Lancaster, generally following a northerly course between the Southern Pacific Railroad and 10th Street East. It merges with other flood waters at Avenue G.

2. Anaverde Creek - This creek collects runoff from the Sierra Pelonas, in Anaverde Valley, and travels along Sierra Highway, southwest and northwest of the City of Palmdale; it flows into USAF Plant 42, where it is collected in the Lockheed Drainage Channel and held in the Air Force Retention Basin. Overflow from the retention basin would flow due north along 20th and 30th Streets East and merge with other flood waters at Avenue G.

3. Little Rock Wash - Little Rock Wash collects runoff from the San Gabriel Mountains in Little Rock Canyon and travels just west of Littlerock through the eastside of Palmdale and proposed Palmdale Regional Airport in a northerly direction to Rosamond Dry Lake.

4. Big Rock Wash - Big Rock Wash collects runoff from the San Gabriel Mountains in Pallett and Big Rock creeks. Traveling north from Holcomb Ridge through Pearblossom, it divides the Alpine, Lovejoy, and Piute Buttes and merges at Avenue E, prior to entering Edwards Air Force Base and Rogers Dry Lake.

Storm drainage in the City is provided along major roads and highways in a northward direction. The Rosamond and Rogers Dry Lakes serve as final destinations of water runoff in the Antelope Valley. Individual development projects are required by the City to provide detention basins for storm runoff and flood retention basins are located throughout the area. The size of the basins may range from 4 to 190 acres or more.

Most drainage channels in Palmdale are unimproved. Storm water flowing along natural channels overflow to adjacent flat areas giving rise to sheet wash. Although disastrous floods have not occurred in Palmdale, localized flooding is frequent.

As development occurs, it reduces the area where water can seep through the ground, thus, increasing storm runoff on streets and low-lying areas. The City requires individual development projects to provide onsite flood control basins for storm runoff. There are flood control basins within several developments throughout the City. New projects 5 or more acres in size are required to install detention basins and/or pay facility fees in accordance with the 1988 Palmdale Drainage Master Plan. Culverts have been constructed at road crossings and road shoulders are graded to allow water to flow north toward the valley floor.

The rapid growth of the Antelope Valley has brought attention to the inadequacy of the existing storm drainage system. In 1987, the Los Angeles County Department of Public Works completed a comprehensive plan of flood control and water conservation for the Antelope Valley. Construction of facilities for this regional system is underway. The City of Palmdale adopted a Drainage Master Plan to support the regional system. Retention and detention basins, pipes, and channels will be located throughout the City to support existing and future development. Approximately $225 million worth of city improvements are proposed. Temporary flood control basins are expected to relieve localized flooding until the entire flood control system is built in 20 years' time.

Meanwhile, developments are required to mitigate storm run-off through guidelines set forth in its Drainage Management Plan. The Drainage Management Plan is intended to guide the planning and design of drainage facilities within individual development projects.

3.11.5 POWER

The Southern California Edison Company (SCE) provides electricity to a 50,000-square mile area in the region. Its service area boundaries are Bishop on the north, Nevada on the east, Orange County on the south, and Santa Barbara on the west. Smaller utility companies exist within these boundaries.

Currently, approximately 70 percent of SCE electricity is self-generated. The company's electric power sources include natural gas, low sulfur oil, the San Onofre Nuclear Generating Plant near San Diego and hydroelectric power plants in the San Joaquin Valley. Additionally, SCE is developing alternative energy technologies like wind, solar, biomass and cogeneration. The remaining 30 percent of SCE's electric power is purchased from out-of-state sources and other power companies in the region. These sources include a Utah coal-burning facility, hydroelectric systems in the Sierra Nevada, Oregon and Washington, fossil fuel-burning plants in Ventura, Redondo Beach and Long Beach, wind farms in the Tehachapi Mountains, pumping plants of the California Aqueduct, and solar energy plants near Barstow.

Because of fluctuating energy demands, utility companies are interconnected and supply each other with electricity when their resources exceed local demand. Also, SCE's local sources are fed to a larger source to provide continuity of service. All energy captured is fed from the Edison "grid system" to individual users. This ensures that service is not interrupted in case of generator failure.

The Palmdale Planning Area is served by SCE from its Vincent Substation. Major transmission lines traverse the south-western section of the Planning Area (see Exhibit 3-48) from the Vincent Substation to the Gorman and Antelope substations. Current usage at the Vincent substation is 1.5 billion kWh annually. The breakdown of usage by type of user for the Palmdale area in 1992 is presented in Table 3-32. Table 3-33 shows factors that may be used to estimate the electric power use of new development.

TABLE 3-32

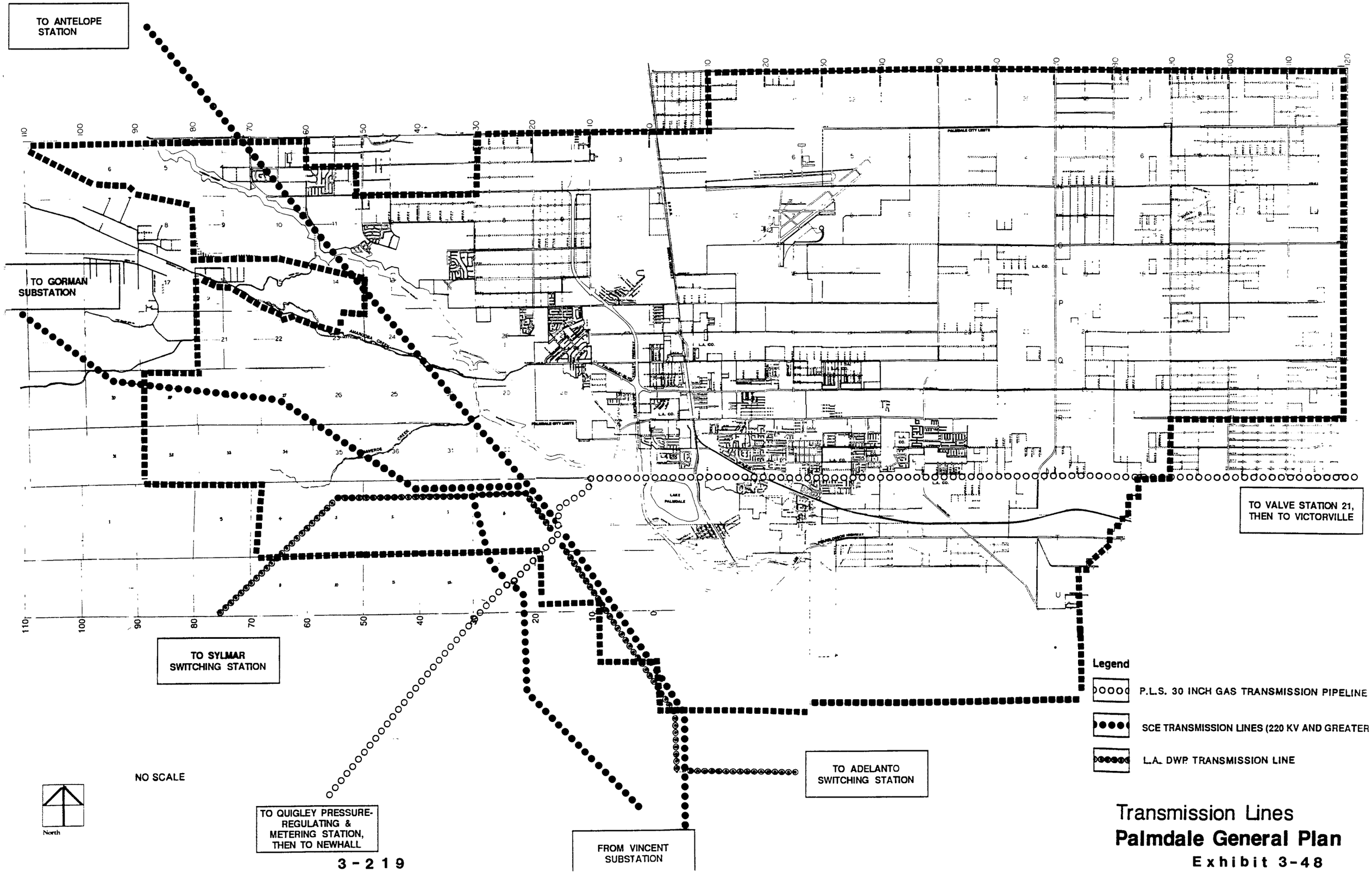
ELECTRIC POWER CONSUMPTION (PALMDALE 1991)

Type of User	Annual Usage in KWh	Percent
Agricultural	2.1 million	0.6
Residential	125.3 million	35.4
Commercial	70.2 million	19.8
Industrial	99.2 million	28.1
Public Agency	54.9 million	15.5
Public Lighting	2.0 million	0.6
Total	353.7 million	100.0

Source: Southern California Edison, 1992.

Current demand for electric usage in terms of net meter gain (number of meters installed minus meters taken out) is 9 percent. This trend is expected to continue through 1992. From 1992 to 1995, net meter gain is expected to rise slightly to 10 percent.

Expansion plans to meet this demand include the upgrade of conductors, extension of lines, and replacement of poles. Plans for expansion include a new substation south of Palmdale in the general vicinity of the existing Vincent substation.



Transmission Lines
Palmdale General Plan
Exhibit 3-48

TABLE 3-33

AVERAGE ANNUAL ELECTRIC ENERGY USAGE (PER SQUARE FOOT OF FLOOR SPACE)

Residential[a]	Annual kWh per sq ft
All-Electric, Single-Family Residence	10.3
Single-Family Residence with Electric Kitchen	5.4
Single-Family Residence with Gas Appliances	4.8
All-electric Apartment	7.0
Apartment with Electric Kitchen	4.4
Apartment with Gas Appliances	4.0
Nonresidential - General Categories[b]	
Office and Professional Buildings	34.2
Warehouses	14.4
Retail Outlets	47.8
Restaurants and Cocktail Lounges	76.9
Hotel and Motels	26.0
Service Establishments[c]	95.2
Elementary Schools	23.1
High Schools and Colleges	38.8
Hospital and Convalescent Facilities	100.7
Churches	6.0
Theaters and Recreation	32.5
Manufacturing/Industrial	50.1
Nonresidential - Specific Categories	
Regional Shopping Center - 1,340,000 sq ft	33.3
Regional Shopping Center - 1,000,000 sq ft	33.6
Regional Shopping Center - 892,000 sq ft	31.4
Regional Shopping Center - 885,000 sq ft	27.2
Regional Shopping Center - 813,000 sq ft	32.5
Regional Shopping Center - 640,000 sq ft	22.8
Major Shopping Center - 492,000 sq ft	27.3
Shoes Stores	38.3
Jr. Department Stores	49.0
Women's Ready to Wear Stores	31.6
Women's Specialty Stores	30.2
Men's Wear Stores	29.2
Bank/Savings & Loan	21.1
Household Stores (Drapes, carpets, fabric, etc.)	16.3

TABLE 3-33 (continued)

Residential[a]	Annual kWh per sq ft
Drug Stores	29.0
Jewelry and Gift Stores	40.0
Food Market	66.5
Restaurant and Food Specialty Stores	85.2

[a] Single-Family includes condominiums
[b] Appears high in view of specific categories
[c] May be heavily weighted for gasoline service stations and photomats

Source: Southern California Edison Company.

Additional electric power needs for the immediate future will not significantly affect Palmdale. SCE will continue to expand in conjunction with increasing electrical demands. No additional substations or distribution stations, aside from the one planned for the area, are proposed.

3.11.6 NATURAL GAS

The Southern California Gas Company provides natural gas to Southern California, with the exception of Long Beach and San Diego County. The Palmdale area is within the boundaries of the Foothill distribution division and the North Basin transmission division. The Southern California Gas Company serves domestic and commercial uses in the Planning Area with approximately 23,590 customers. The average consumption of single-family units is 1,095 therms per year, a therm being a standard unit of heat supply. Industrial and commercial loads vary depending on the type of equipment used. Table 3-34 provides the factors for calculating natural gas consumption on a project specific basis. The maintenance and operation of gas distribution facilities are regulated by the Public Utilities Commission to ensure public safety and fair practices.

TABLE 3-34

NATURAL GAS CONSUMPTION FACTORS

Land Use	Consumption Factor
Single-family	6,665 cf/month/unit
Multi-family (4 or less units)	4,105 cf/month/unit
Multi-family (5 or more units)	3,918 cf/month/unit
Office	2.0 cf/month/sq ft
Shopping centers/retail	2.9 cf/month/sq ft
Hotels	4.8 cf/month/sq ft
Industrial use	3.3 cu ft/month/sq ft[a]

[a] Estimate from City of Los Angeles EIR Guidelines.

Source: South Coast Air Quality Management District, Air Quality Handbook 1987.

Pacific Gas and Lighting operates two 30-inch gas transmission pipelines along Avenue S (see previously referenced Exhibit 3-48). These pipelines comes up from Newhall where the gas is pressurized and metered then set for usage in Palmdale.

In remote areas where gas lines do not exist, the expansion of gas mains depends on the demand and willingness of customers to pay for the needed connecting lines. Rules and tariff schedules are set up by the Public Utilities Commission to regulate these service extensions. Customers take an equitable share in financing the line extension. Propane is often used as a substitute until such time that the demand for gas connections is large enough for the Southern California Gas Company to install lines.

3.11.7 TELEPHONE

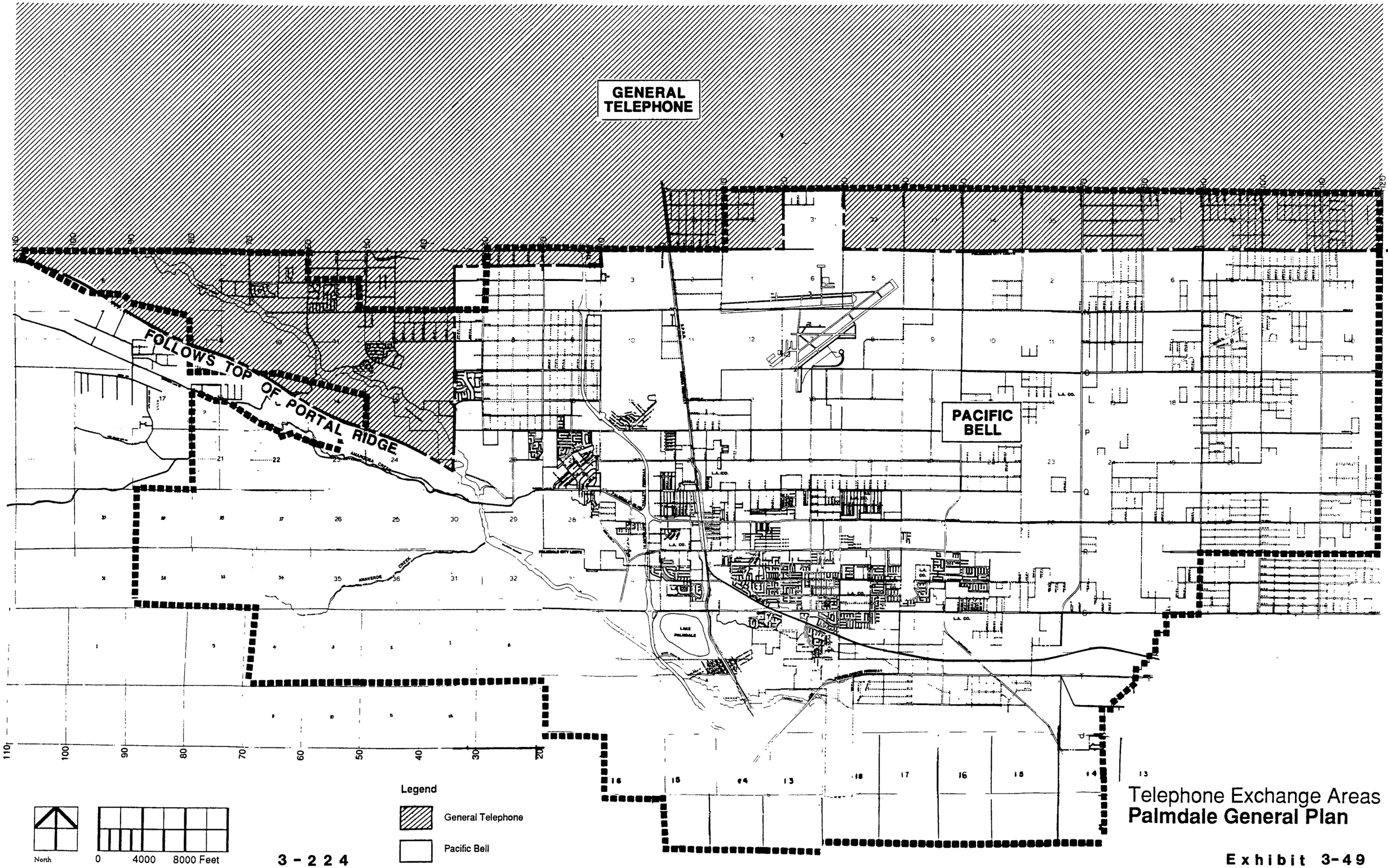
Pacific Bell provides telephone service to almost 90 percent of the Palmdale Planning Area. This includes 34,600 residential and 4,378 business customers in the exchange area. General Telephone serves the Quartz Hill area and the northern part of the City between Avenue M and Avenue L. It serves approximately 900 to 1,000 residential customers and no business customers in the Quartz Hill and Rancho Vista areas. Exhibit 3-49 shows each company's service area. MCI cable lines run parallel to and along the California Aqueduct, south and southwest of the City.

Telephone service is provided based on the availability of existing lines. Where lines do not exist, telephone connections will be provided if the customer agrees to pay for the costs of extending the lines. Tariffs are regulated by the Public Utilities Commission. Development projects arrange for the extension of existing lines to their sites, which divides the cost of extension by the number of lots served. Individual extension could be costly and infeasible.

The service boundaries between the two companies are not rigid. If development occurs in an area which is served by one company but extending service from the other company would be cheaper, the customer could arrange for a foreign exchange.

3.11.8 CABLE TELEVISION

Cable television is an information and entertainment source. Most development tracts provide line connections through arrangements with local companies. Presently, Jones Intercable (WGN Electronics) services the Palmdale area. Aside from such basic cable service as stations from Los Angeles and Bakersfield and the Cable News Network, the company offers sports and movie channels. There are approximately 18,800 active customers in Palmdale, and approximately 57,000 in the entire Antelope Valley. Seventeen percent of the cables are overhead and 82 percent are underground lines. Currently, there are 51.78 miles of aerial cable and 247.65 miles of underground cable serving the entire Antelope Valley.



Telephone Exchange Areas
Palmdale General Plan

Exhibit 3-49

3.12 RISK OF UPSET

Risk of upset refers to conditions and hazards present in the Planning Area that may cause an explosion or the release of hazardous substances in case of accident or natural disaster. These include earthquake hazards, aircraft accident potential, and hazardous materials and wastes misuse and mishandling.

3.12.1 SEISMIC HAZARDS

Existing seismic conditions in the Planning Area are discussed in Section 3.1, Geology. As stated, the Palmdale Planning Area is directly affected by the San Andreas, Sierra Madre-San Fernando, Garlock, Owens Valley, and White Wolf earthquake faults. Major active fault zones usually contain many fault fracture lines or traces. They are characterized by highly deformed, broken and sheared rock. All active faults are included in a special studies zone under the provisions of the Alquist-Priolo Act. These study zones will be at least one-quarter mile wide (one-eighth of a mile on each side of the fault trace). The Alquist Priolo Act provides that studies be made before the development of residences within designated zones.

3.12.2 AIRCRAFT ACCIDENT POTENTIAL

The United States Air Force Production Flight Test Installation (USAF Plant 42) occupies a 5,400-acre site located between Avenue P and Avenue M from Sierra Highway to 50th Street East. It was primarily established to assemble and test aircraft and to train pilots. The plant assembles military aircraft and space shuttles. The actual number of flights at the plant fluctuates with an average of 250 to 300 landings per day. Almost 30 percent of these are test flights and 70 percent are pilot training flights. The presence of the USAF Plant 42 in the Planning Area carries the possibility of aircraft accidents within the USAF site and in surrounding areas.

The site is occupied by the Federal Aviation Administration building, the Palmdale Air Terminal, and 8 different facilities, including Northrop Corporation, Rockwell International, and Lockheed.

The Air Force recently signed a Joint Use Agreement with the Los Angeles City Department of Airports and began allowing a limited number of commercial flights onsite. This represents a move towards providing the Antelope Valley with commercial flight service. The Joint Use Agreement will allow up to 400 flights per day.

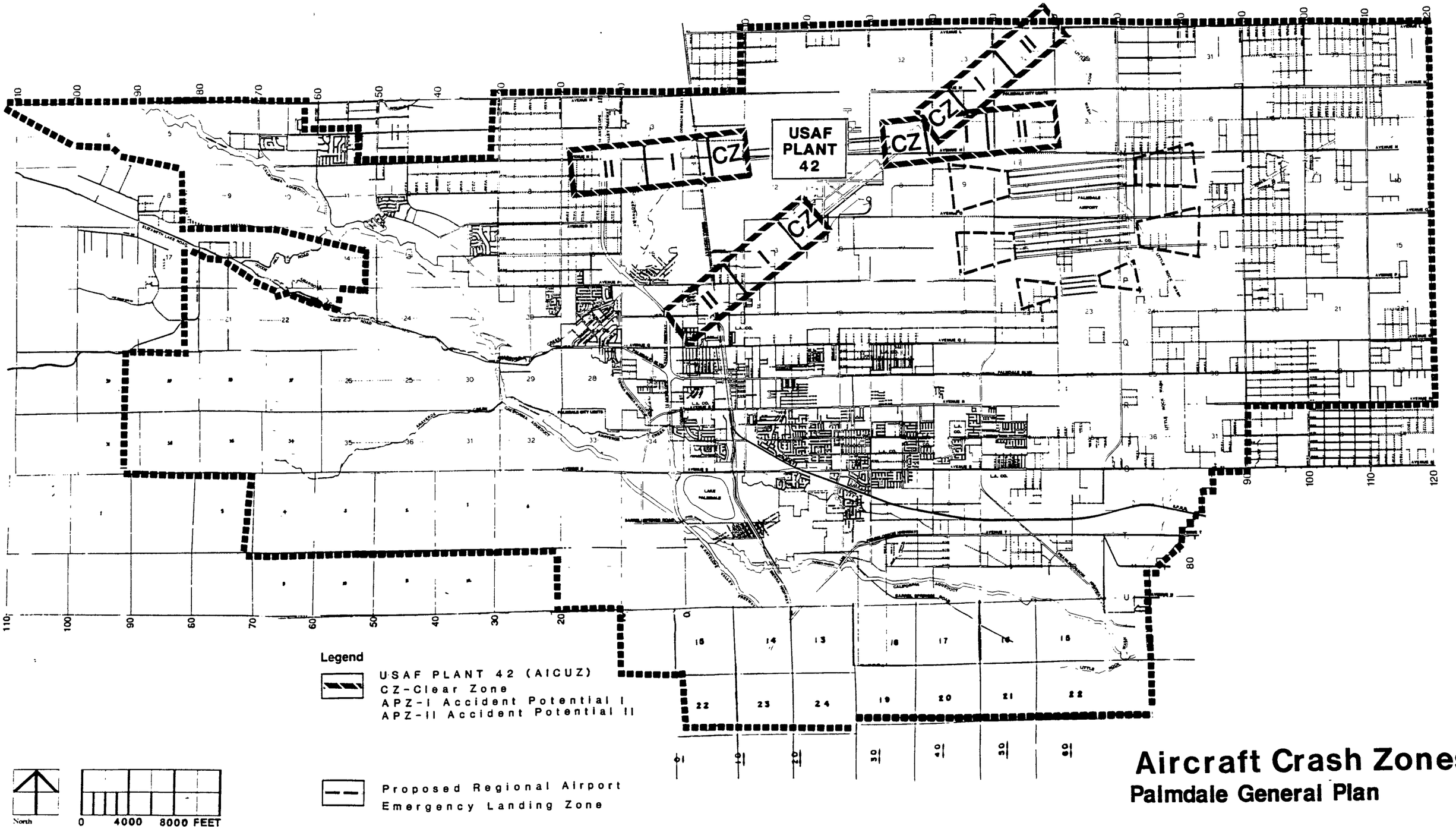
An 18,100-acre site abutting the eastern boundary of the plant is reserved for the proposed Palmdale Regional Airport. It is located between Avenue P and Avenue M from Sierra Highway to 100th Street East. In the year 2010, the Palmdale Regional Airport could serve as many as 5,383,705 passengers annually. Once in full operation, this facility will increase the potential for aircraft accidents in the Planning Area. Exhibit 3-50 delineates aircraft accident potential zones (APZ) for the USAF Plant 42 and the proposed regional airport runways. The potential for accidents is highest in the Clear Zone, and decreases with distance from the end of the runway. The Clear Zone has a 30 percent risk factor, APZ I has 8 percent, and APZ II has 5 percent. However, a significant percent of accidents occur in APZ I and II and outside these zones.

The USAF minimizes disaster potential by following strict safety precautions and by having its own emergency personnel for crash and rescue operations. Development proposals around the plant are reviewed by the USAF, to ensue compatibility with plant operations. Airport compatible uses such as low employee occupancy, industrial, and commercial uses are encouraged around Plant 42.

The increasing pressure for development in the Planning Area and implementation of the proposed land use plan will find more people living near the USAF Plant 42 than at present. The policies which limit population densities within the APZ reduce the potential for loss of life.

3.12.3 HAZARDOUS MATERIALS AND WASTES

Hazardous materials and wastes have become a primary health concern largely as a result of the widespread number of spills and contamination incidents and the findings of subsequent studies and reports on the human health and environmental effects of contamination. The elimination or reduction in the use of hazardous materials and reduction of hazardous wastes has been encouraged nationwide, with laws and programs established to regulate production, handling, and disposal.



Aircraft Crash Zones
Palmdale General Plan

Exhibit 3-50

Regulatory and Legislative Framework

In accordance with the provisions of Assembly Bill (AB) 2948 (Tanner 1986), the City is currently preparing a Hazardous Waste Management Plan which will include:

- An analysis of the hazardous waste streams generated in the City.
- A description of existing hazardous waste facilities in the City which treat, handle, recycle, and dispose of hazardous waste.
- An analysis of the potential for reducing the volume of hazardous waste through recycling and source reduction.
- A consideration of the need for the management of small volumes of hazardous waste produced by businesses and households.
- A determination of the need for additional hazardous waste facilities to meet expected generation volumes.
- An identification of existing facilities that may be expanded or siting criteria for new hazardous waste facilities.
- A statement of goals, objectives and policies for the siting and general management of hazardous waste facilities, and the general management of hazardous waste generated through the year 2000.
- A schedule which describes City actions necessary to implement the plan through the year 2000.

Assembly Bills 2185 and 2187 (Waters 1985 and 1986) were intended to protect public health, safety, and the environment by establishing business and area plans relating to the handling, and release or threatened release of hazardous materials/wastes. The area plan for Los Angeles County has been developed and is implemented by the Los Angeles County Fire Department. The area plan, which covers Palmdale as well as all of Los Angeles County, includes an inventory of hazardous materials/wastes facilities in the county, procedures for emergency notification and response, pre-emergency planning measures, and public safety information. Facilities

with over 55-gallons of liquid, 500 pounds of solids, or 200 cubic feet of compressed gas or hazardous materials/wastes onsite at any one time, must submit a business plan to the Los Angeles County Fire Department. The information in the above plans is available for public review.

Assembly Bill 939 (Sher 1989), also known as the California Integrated Waste Management Act, was enacted to reduce the amount of solid waste that must be disposed of by land disposal. Each county, city or local governmental agency which provides solid waste handling services must "provide services that include, but are not limited to source reduction, recycling, composting activities, and the collection, transfer, and disposal of solid waste within or without the territory subject to its solid waste handling jurisdiction." The City of Palmdale has adopted, and submitted to the county, a Source Reduction and Recycling Element. The City supports the concept of solid waste management, including hazardous wastes, source reduction and recycling efforts and shall implement the measures designated in AB 939.

Environmental Setting

In the Planning Area, a number of sites which generate, use, or store hazardous substances exist, including industrially designated areas and USAF Plant 42.

The USAF Plant 42 operates primarily to assemble and test aircraft, train pilots, and conduct related operations and maintenance activities. Hazardous materials and wastes used and generated onsite include, but are not limited to, various petroleum products, paints, solvents, and corrosives. Contamination to the air from oxidation or particulate matter, and risk of upset from explosion during waste handling or transport to a treatment storage or disposal site are potential events associated with this use.

The U.S. EPA Superfund program is responsible for identifying potential hazardous materials/ waste sites and appropriating cleanup funds, if necessary. The USAF Plant 42 is listed on the EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database as a potential contamination site. The California Department of Health Services (DHS) has also identified USAF Plant 42 as a hazardous waste site targeted for cleanup. Twenty-three contaminated areas at USAF Plant 42 were discovered in the initial assessment phase. Information available to date indicates that no hazardous waste

exposure to public health and the environment exists at this time. The DHS will oversee subsequent investigation and cleanup actions and the Department of Defense will provide necessary funding. Completion of remedial actions is targeted by the state for 1996.

Several state agencies monitor hazardous materials/waste users or producers. Potential and known contamination sites are monitored and documented by the DHS and the Regional Water Quality Control Board (RWQCB). A review of the Leaking Underground Storage Tank List produced by the RWQCB and the Hazardous Waste and Substances Sites List produced by the State of California Environmental Protection Agency indicates that hazardous waste sites are located in Palmdale or in the surrounding communities. Table 3-35 describes these sites.

TABLE 3-35

UNDERGROUND STORAGE TANK LEAKS IN THE CITY OF PALMDALE

Facility/Site	Address	Substance	Date Reported	Last Review	Case Type	Status	Regulatory Agency with Jurisdiction
Chandler Lumber Co.	39531 15th Street East	Gasoline	09/13/90	09/28/90	U	3B	Los Angeles County Department of Public Works
Palmdale H20 Reclamation Plant	39300 30th Street East	Not reported	08/27/90	10/01/90	U	0	Los Angeles County Department of Public Works
Arrow Rock Materials	37780 75th Street East	Diesel	05/15/90	07/11/90	S	0	Los Angeles County Department of Public Works
Palmdale High School	2137 Avenue R East	Misc. MVF	03/27/90	07/10/90	S	0	Los Angeles County Department of Public Works
A V Ready Mix	37815 E. 6th Street	Diesel	07/11/90	08/06/90	S	0	Los Angeles County Department of Public Works
Lockheed-California Company	2500 E. Avenue M, Site 2, AFP 42	Not reported	07/10/85	03/31/88	U	9	Regional Water Quality Control Board
Rockwell International Corp.	2825 East Avenue P	Not reported	03/28/90	07/10/90	U	0	Los Angeles County Department of Public Works
Northrop Corporation	3500 East Avenue M	Jet fuel	08/30/88	07/10/90	U	0	Los Angeles County Department of Public Works
U.S. Air Force Plant 42, Site 4	3520 East Avenue M	Kerosene	09/22/88	10/27/88	S	9	Los Angeles County Department of Public Works
Petro-Lock, Inc.	38206 N. Sierra Hwy.	Regular Gas	08/27/90	10/01/90	S	1	Los Angeles County Department of Public Works
Palmdale Regional Airport	39441 N. 25th Street E.	Not reported	02/12/86	03/31/88	S	9	Los Angeles County Department of Public Works
Southern Pacific - Palmdale	38021 Sierra Highway	Gasoline	06/22/88	03/28/89	S	9	Los Angeles County Department of Public Works

TABLE 3-35 (continued)

Facility/Site	Address	Substance	Date Reported	Last Review	Case Type	Status	Regulatory Agency with Jurisdiction
Unknown	37205 Sierra Highway	Waste oil	05/18/90	10/01/90	U	0	Los Angeles County Department of Public Works
Arco Station #1369	411 West Palmdale Blvd.	Gasoline	03/12/90	07/10/90	S	0	Los Angeles County Department of Public Works
Lockheed Air Refrigerating	1011 Lockheed Way	Jet fuel	11/01/90	11/26/90	S	0	Los Angeles County Department of Public Works
Antelope Valley Refrigerating	602 East Avenue R.	Diesel	11/05/90	11/27/90	U	1	Los Angeles County Department of Public Works
Air Force Plant 42, Site 5	Site 5	Not reported	06/11/90	11/27/90	U	1	Los Angeles County Department of Public Works
Mr. Ralph Parsons Co.	39516 Division Street	Not reported	05/09/90	11/27/90	U	1	Los Angeles County Department of Public Works
Kaufman & Broad of Southern California, Inc.	2712 Elizabeth Lake Rd.	Gasoline	11/20/90	01/08/91	U	0	Los Angeles County Department of Public Works
Chevron Station No. 2870	2850 E. Palmdale Blvd.	Gasoline	11/28/90	01/08/91	U	0	Los Angeles County Department of Public Works

Case Type/Status Key

U = The type of resources affected or extent of the resources affected is not known.
S = Only soil has been affected.
O = No action taken by responsible party after initial report of leak.
1 = Leak suspected at site but not confirmed.
3B = Preliminary site assessment underway.
9 = Signed off, remedial action completed or deemed unnecessary.

Source: California Regional Water Quality Control Board, Lahontan Region, January 20, 1991.

No hazardous waste landfills are currently located in the Planning Area. The Antelope Valley Landfill is a non-hazardous waste Class II landfill. The local groundwater and surface waters are protected from contamination by wastes deposited at the landfill through specific waste management systems in place at the landfill.

The transport of hazardous materials and explosives through the Planning Area is regulated by the California Department of Transportation (Caltrans). The Antelope Valley Freeway and Pearblossom Highway are state routes and allow vehicles transporting hazardous materials/wastes. Table 3-26 identifies designated truck routes. City streets and county areas are generally not designated as hazardous materials/wastes transportation routes, but a permit may be granted on a case-by-case basis by the City or County. Transporters of hazardous waste are required to be certified by Caltrans and manifests are required to track the hazardous waste during transport. Although no spills have been reported, the potential for hazardous materials/wastes spills during transport exists and will potentially increase as industrial development in the Planning Area increases. At present, the Los Angeles County Fire Department is responsible for responding to hazardous materials accidents at all locations within the City, except at USAF Plant 42, where the Air Force Fire Department is the responsible agency.

TABLE 3-36

DESIGNATED TRUCK ROUTES 1992

A. 10th Street West from Avenue P to Avenue M

B. Sierra Highway from the Antelope Valley Freeway to Avenue M

C. 50th Street East from Palmdale Boulevard to Avenue M

D. Avenue M from the Antelope Valley Freeway to 50th Street East

E. Avenue P from 10th Street West to 50th Street East

F. City Ranch Road, Tierra Subida, Rayburn Road, and Avenue R from the Palmdale Dump to Sierra Highway

G. Avenue S from the Antelope Valley Freeway to Sierra Highway

H. Pearblossom Highway from Sierra Highway to Fort Tejon Road

I. Avenue T from Fort Tejon Road to 90th Street East

Source: City of Palmdale Ordinance 953.

3.13 NOISE

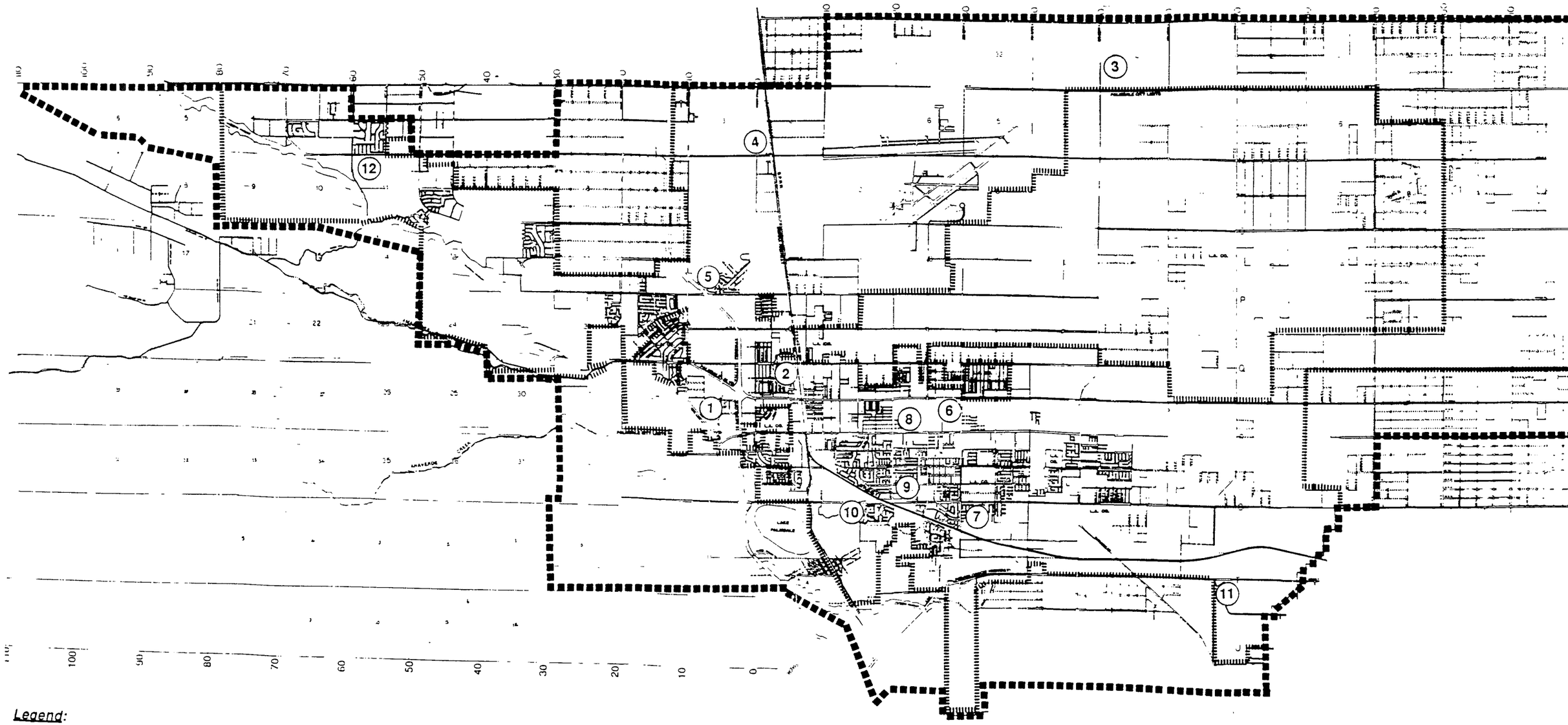
The existing noise environment in the Planning Area was documented through both a community noise survey and computer-generated noise contours. The noise survey identified existing noise levels at specific locations within the City while the computer analysis predicted existing and future roadway noise levels.

Community Noise Survey

A community noise survey was conducted on November 2, 1987 to document the existing noise environment within the City of Palmdale. Noise measurements were conducted at 12 sites between the hours of 7:30 a.m. and 4:10 p.m. The noise monitoring locations are identified in Exhibit 3-51 and were selected with the assistance of the Planning Department. The locations were representative of residential, commercial, industrial, public use areas, and undeveloped property.

The noise measurements indicated that the City of Palmdale has noise levels typical of urban residential communities. However, unlike other urban communities, the City of Palmdale has two unique noise sources: military aircraft and major freight rail operations. Noise from military aircraft operations was recorded at 6 of the 12 measurement locations (see Exhibit 3-51), with the maximum aircraft departure noise levels reaching 92 to 95 dBA. Site 4 is located within the 70 dB CNEL noise contour from USAF Plant 42. Approaching aircraft noise levels at Site 3, which is located approximately on the 65 dB CNEL noise contour from USAF Plant 42, were somewhat lower at 85 to 92 dBA. Aircraft noise varied throughout flyovers with high frequencies predominating while an aircraft approached and low-frequencies predominating after the aircraft had passed overhead.

Freight rail movements were measured at Sites 2 and 9. Rail noise was characterized as being of extremely long duration (several minutes) with 100 car plus freight movements. The maximum locomotive noise level recorded was 99 dBA with rail cars generating noise levels of 64 to 73 dBA.



Legend:

(1) Site Number

Job #10590001

Michael Brandman Associates

0 4000 8000 Feet

north

Noise Measurement Location

Palmdale General Pla

Exhibit 3-51

The noise measurement results are summarized in Table 3-37 with measurement sites shown in Exhibit 3-51 and should be used as a guide or indication of noise levels throughout the community. Maximum noise levels ranged from 53.5 to 99.0 dBA with the highest level generated by freight rail operations. The second and third highest noise levels were military aircraft operations at 95 and 92 dBA. Site 12 was a new residential development on the western boundary of the City. This site, because of its remote location and light traffic, had substantially lower noise levels than any other site.

Table 3-37 also provides the sound level exceeded 10 percent (L10), 33 percent (L33), 50 percent (L50), and 90 percent (L90) of the measurement duration. While the Lmax provides the highest level measured, the L10 provides a better indication of peak noise levels that would typically be expected at the specific location. Disregarding the quiet environment, L10 of 53.0 dBA at Site 12 and the substantial number of aircraft approaches at Site 3 resulting in an L10 of 85.5 dBA, the L10 values only ranged from 63.0 to 75.5 dBA for the remaining 10 locations. Without the two extreme conditions, the L50 values also were relatively consistent and only varied from 58.5 to 68.5 dBA. These values indicate a typical urban environment with a variety of noise sources, including roadway traffic, rail operations, aircraft, and other nontransportation-related activities.

L90 values are commonly termed background noise levels. Background noise levels throughout the City ranged from 45.5 dBA to 62.0 dBA. The background noise levels were less than 60 dBA for all locations except Sites 3 and 4 near USAF Plant 42. The lowest background noise level was at Site 7, a quiet residential neighborhood. The L33 sound level is provided in Table 3-37 since it is used by various federal agencies to evaluate transportation noise impacts.

The 12 sites fall into four general land use categories: residential, commercial, public use, and undeveloped property. Each of these categories is discussed below.

Residential. Sites 1, 5, 7, and 12 are considered residential locations. Measurements at all four residential locations included roadway traffic at slower speeds. Site 12 was a new residential development on the far west end of the city and away from major noise sources. It, therefore, had the lowest noise levels of any of the 12 sites. The four residential sites had L50 values ranging from 51.0 to 63.0 dBA. Both Sites 1 and 5 had higher noise values for two reasons: measurements included SR-14 truck traffic noise and military aircraft flyover noise.

TABLE 3-37

NOISE MEASUREMENTS BY SITE

Site No.	Land Use	Lmax[a]	L10[b]	L33[c]	L50[d]	L90[e]
1	Residential	72.0	64.5	62.0	58.5	55.5
2	Commercial	99.0	73.0	66.5	63.5	55.0
3	Undeveloped	92.0	85.5	73.5	68.0	61.5
4	Undeveloped	95.0	75.5	70.5	68.5	62.0
5	Residential	78.0	69.0	65.0	63.0	59.5
6	Park	72.0	63.0	59.0	57.5	53.5
7	Residential	74.5	64.5	58.5	55.5	45.5
8	School	75.5	66.5	63.5	61.5	57.5
9	Undeveloped	79.0	68.5	63.5	61.5	55.5
10	Commercial	79.5	66.0	61.5	59.5	55.0
11	Undeveloped	73.5	68.0	63.5	60.5	53.5
12	Residential	53.5	53.0	52.5	51.0	49.0
Range		53.5-99.0	53.0-85.5	52.5-73.5	51.0-68.5	49.05-62.0

a Lmax is the maximum sound level recorded during the noise measurement duration.
b Inferior L10 is the sound level exceeded 10 percent of the noise measurement duration.
c L33 is the sound level exceeded 33 percent of the noise measurement duration.
d L50 is the sound level exceeded 50 percent of the noise measurement duration.
e L90 is the sound level exceeded 90 percent of the noise measurement duration. It is also considered the background noise level.

Source: Michael Brandman Associates 1990.

Commercial: Noise measurements at commercial locations included Sites 2 and 10. Commercial locations generally have slightly higher noise levels than residential locations because of the greater volumes of traffic and higher percentage of truck traffic. The L50 for these two sites ranged from 59.5 to 63.5 dBA.

Public Use: Site 6, McAdam Park and Site 7, Sage Intermediate School are public use facilities. McAdam Park was a quiet location as demonstrated by an L50 of 57.5 dBA. Noise levels were somewhat higher at Sage Intermediate School due to substantial traffic on Avenue R and 20th Street. The L50 at this site was 61.5 dBA.

Undeveloped Property: Sites 3, 4, 9, and 11 were representative of undeveloped locations within the city. The L50 values were as follows: Site 3, 68.0 dBA; Site 4, 68.5 dBA; Site 9, 61.5 dBA; and Site 11, 60.5 dBA. Sites 3 and 4 were on the arrival and departure ends of the primary runway at USAF Plant 42. At Site 3, aircraft approach noise levels ranged from 68 to 92 dBA. Site 4 was approximately 4,000 feet from the primary runway at USAF Plant 42 and aircraft departure noise ranged from 85 to 94 dBA. For comparison, traffic noise on Sierra Highway was 68 to 74 dBA at 150 feet. Sites 9 and 11 were at undeveloped locations to the southeast of the City. While Site 9 was near a residential community, a train pass-by during noise measurements resulted in higher noise levels. The L50 of 61.5 dBA was a combination of train (72 to 78 dBA) and truck (64 to 68 dBA) noise levels. Site 11, along Avenue T, had an L50 of 60.5 dBA with heavy trucks serving sand and gravel operations dominating the noise environment. Truck traffic noise levels at 150 feet ranged from 68 to 72 dBA.

Noise Contours

Background

The Noise Element contains both 60 and 65 dB CNEL contours for transportation noise sources, including the Antelope Valley Freeway (SR-14), Pearblossom Highway (SR-138), two Southern Pacific Railroad lines (The Valley Mainline and the Colton/Palmdale Cutoff), USAF Plant 42, and major roadways.

A 65 dB CNEL level describes an area as having a time-average constant sound level of roughly 65 dBA even though the area would experience individual sound events higher and lower than 65 dBA. CNEL provides a common measure for a variety of differing noise environments. Thus, the same CNEL can describe both an area with very few high noise events and an area with many low level events.

CNEL values can be useful in comparing noise environments and indicating the potential degree of adverse noise impacts. However, the CNEL scale has limitations in its usefulness through averaging the sound event levels

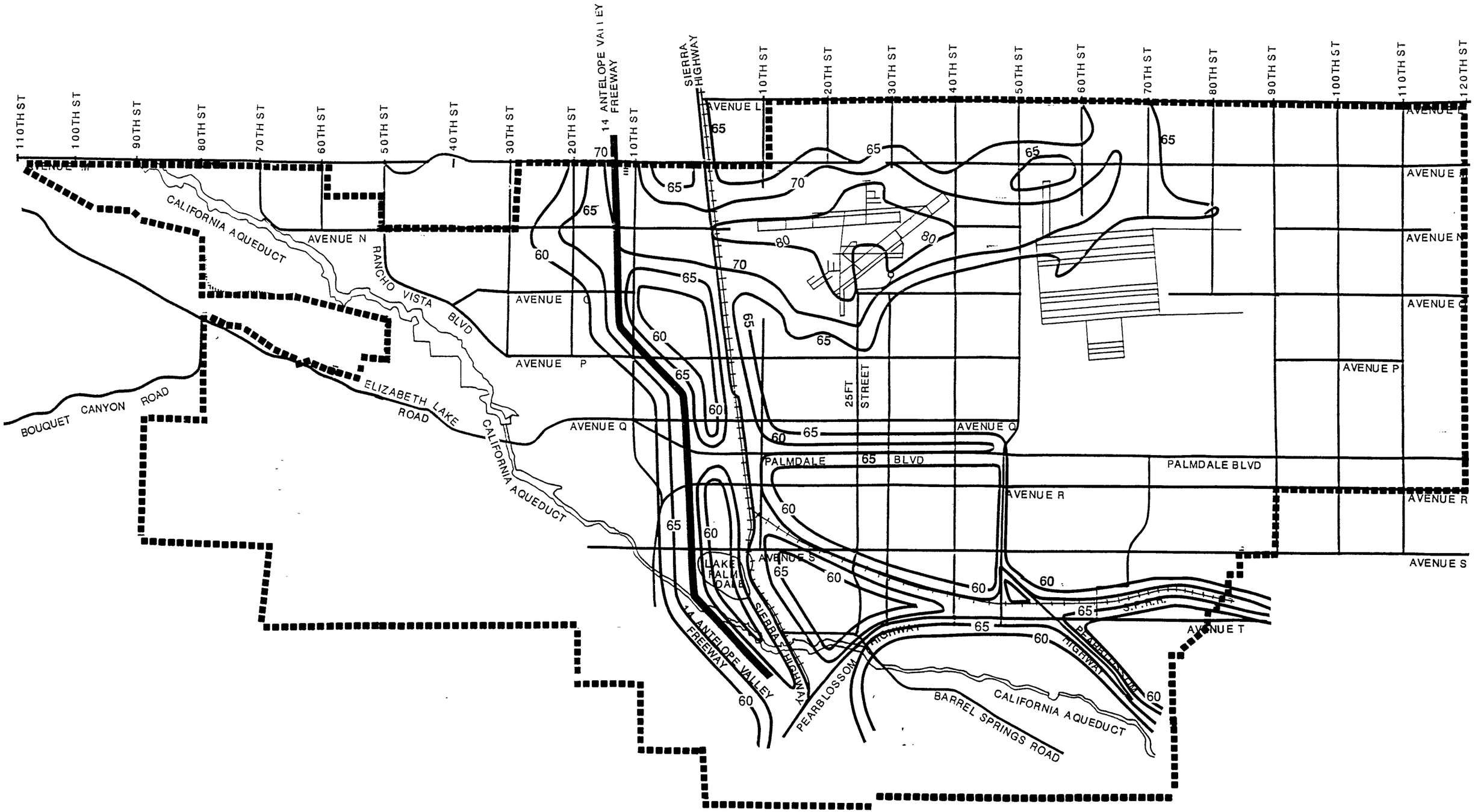
over a 24-hour period and possibly obscuring the periodic high noise levels of individual events and their possible adverse effects. In recognition of this limitation, the EPA has adopted maximum single event noise impact levels for sources such as buses, garbage trucks, and railroad equipment.

Note that CNEL is not a measure but a computation of measured sound levels. People do not "hear" CNEL, but respond to the sound levels of individual events or noise sources. People may integrate their responses to noise over long-term intervals (daily, weekly, etc.) and make subjective judgments about the "quality" of the noise environment. This is one reason why CNEL may not be the most appropriate noise descriptor for land uses which do not involve continuous "long-term" exposure to the noise source occurring regularly over a 24-hour period.

The noise contours represent lines of equal noise exposure (see Exhibit 3-52), just as the lines on a weather map indicate equal temperature or atmospheric pressure. The contours provide a visualization of estimates of sound level. Land forms and man-made structures have very complex effects on sound transmission and on noise contours. Generally, barriers between a source and receiver absorb and/or reflect noise, resulting in a quieter environment. Where barriers or land forms do not interrupt the noise transmission path from source to receiver, the contours prove to be good estimates of the average noise level. In areas where barriers or land forms interrupt the sound transmission, the noise contours overestimate the extent to which a source intrudes into the community. Unfortunately, it is virtually impossible to analyze each roadway segment of the City for barrier noise attenuation. Therefore, where specific projects are proposed within noise impacted areas, an acoustical analysis should be completed to evaluate the noise reduction provided by any barriers to the noise path.

CNEL values have been shown to be closely related to, and often within, 1 dB of Ldn values, a noise metric commonly used by federal agencies. The Ldn methodology does not weight sound events occurring between 7 p.m. and 10 p.m.

The noise contour analysis focused on transportation noise generators, which typically cause a constant increase in ambient noise levels. Specific findings of these studies are as follows.



Existing Transportation Noise Contours
Palmdale General Plan

Exhibit 3-52

- Aircraft Noise. The USAF Plant 42 is located in the City of Palmdale, east of the Sierra Highway and north of Avenue P. Aircraft noise contours (65, 70, and 80 dB CNEL contours) for the USAF Plant 42 were provided by the Department of the Air Force (AFSC Master Plan Air Installation Compatible Use Zone Map, August 1990). The noise contours reflect both air craft operations and engine run-ups.

- Railroad Noise. The Southern Pacific Railroad Company operates two rail lines through the City of Palmdale. The Valley Mainline runs north/south and operates adjacent to Sierra Highway. The Colton/Palmdale cutoff branches from the Valley Mainland south of Avenue R and runs east. Railroad noise levels were calculated using the U.S. Department of Housing and Urban Development Noise Assessment guidelines. The following assumptions (based on information provided by SPRR) were made in the analysis of the Valley Mainline operations: 20 diesel trains per 24-hour period, 15 percent of the operations occurring at night; 4 diesel locomotives per train; 120 rail cars per train; average speed of 55 mph; welded tracks; and whistles required for grade crossings. The above assumptions are also true for the Colton/Palmdale cutoff, with the exception that 10 trains operate on the line in a 24-hour period. The 60 and 65 dB CNEL contours for the two rail lines were generated from this analysis.

- Roadway Noise. Roadway noise contours in the Planning Area were generated using the Federal Highway Administration's Highway (FHWA) Traffic Noise Prediction model, U.S. Department of Transportation (1978). This model was modified to generate CNEL values. Model input data included existing and projected average daily traffic volumes (provided by DKS Associates, 1989); day/evening/night percentages of autos, and medium and heavy trucks; vehicle speeds; ground attenuation factors (soft sight conditions were assumed); and roadway widths.

The specific assumptions and calculated noise levels obtained by the FHWA model for each roadway segment studied are on file with the City Planning Department. The results of the analysis are summarized in Table 3-38 which gives the distance from the roadway center line at the 60, 65, and 70 dB CNEL contours, and the CNEL level at 50 feet from the roadway centerline.

TABLE 3-38

EXISTING ROADWAY NOISE LEVELS (CNEL)

Roadway	From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	6 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
East/West Arterials					
Ave L	10th St E/20th St E	< 50	< 50	< 50	45.7
	40th St E/50th St E	< 50	< 50	< 50	45.3
	50th St E/110th St E	< 50	< 50	< 50	47.8
Ave M	70th St W/60th St W	< 50	< 50	< 50	58.7
	30th St W/SR-14	< 50	< 50	99	63.7
	at SR-14	< 50	< 50	99	63.7
	SR-14/Sierra Hwy	56	110	233	67.8
	Sierra Hwy/Division St	58	117	248	68.2
	Division St/10th St E	58	117	248	68.2
	10th St E/15th St E	< 50	62	126	63.7
	15th St E/50th St E	< 50	< 50	103	64.0
Ave M-8	70th St W/55th St W	< 50	< 50	< 50	55.3
Ave N	70th St W/60th St W	< 50	< 50	62	60.6
	60th St W/30th St W	< 50	< 50	65	61.0
	30th St W/SR-14	< 50	< 50	86	62.8
	SR-14/10th St W	< 50	< 50	86	62.8
	10th St W/Sierra Hwy	< 50	< 50	< 50	59.1
	2000' W of 40th St E/ 80th St E	< 50	< 50	< 50	55.3
	80th St E/115th St E	< 50	< 50	< 50	55.3
Ave N-8	70th St E/80th St E	< 50	< 50	< 50	45.0
Ave O	30th St W/10th St W	< 50	< 50	< 50	52.8
	90th St E/110th St E	< 50	< 50	< 50	45.0
Ave O-8	20th St W/10th St W	< 50	< 50	< 50	48.0
	8th St E/15th St E	< 50	< 50	< 50	55.0

TABLE 3-38 (continued)

Roadway	From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	6 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
Rancho Vista Blvd					
	50th St W/S of Ave N	< 50	< 50	98	63.7
	S of Ave N/30th St W	< 50	65	132	64.0
Ave P	30th St W/15th St W	59	118	249	68.2
	15th St W/10th St W	73	142	297	68.7
	10th St W/Sierra Hwy	59	118	250	68.3
	Sierra Hwy/8th St E	67	138	293	69.3
	8th St E/20th St E	< 50	83	173	65.8
	20th St E/30th St E	< 50	83	173	65.8
	30th St E/50th St E	< 50	< 50	71	61.6
Ave P	90th St E/110th St E	< 50	< 50	< 50	45.0
Ave P-8	10th St W/Division St	< 50	< 50	< 50	55.6
	Division St/Sierra Hwy	< 50	< 50	< 50	55.2
	8th St E/10th St E	< 50	< 50	< 50	45.0
	40th St E/50th St E	< 50	< 50	< 50	48.0
Ave Q	Palmdale Blvd/Division St	< 50	< 50	< 50	56.0
	Division St/6th St E	< 50	< 50	< 50	59.2
	Sierra Hwy/20th St E	< 50	< 50	88	62.9
	20th St E/40th St E	< 50	< 50	52	59.5
Elizabeth Lake Rd					
	Godde Hill Rd/30th St W	< 50	< 50	63	60.8
	30th St W/25th St W	< 50	< 50	< 50	58.8
	25th St W/Foxholm Dr	< 50	< 50	< 50	58.8
	Foxholm Dr/Palmdale Blvd	< 50	85	177	66.0
Palmdale Blvd					
	Elizabeth Lake Rd/SR-14	< 50	101	213	67.2
	SR-14/30th St E	84	174	372	70.9
	30th St E/47th St E	60	121	256	68.4
	47th St E/70th St E	< 50	58	124	65.2
	70th St E/90th St E	< 50	58	124	65.2

TABLE 3-38 (continued)

Roadway	From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	6 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
	90th St E/120th St E	< 50	< 50	75	61.9
Ave R	Tierra Subida/Division St	< 50	< 50	72	61.7
	Division St/6th St E	< 50	< 50	103	64.0
	6th St E/20th St E	< 50	108	227	67.6
	20th St E/30th St E	< 50	82	176	66.9
	30th St E/47th St E	< 50	57	123	65.2
Ave R-8	Division St/6th St E	< 50	< 50	< 50	55.0
	12th St E/25th St E	< 50	< 50	< 50	57.0
	1200' W of 30th St E/ 1200' E of 35th St E	< 50	< 50	< 50	58.3
	40th St E/1800' E of 47th St E	< 50	< 50	< 50	56.8
Ave S	City Ranch Bypass/Tierra Subida Ave	< 50	< 50	< 50	58.3
	Tierra Subida Ave/SR-14	< 50	< 50	66	61.1
	SR-14/Sierra Hwy	< 50	61	131	65.6
Ave S	Sierra Hwy/10th St E	< 50	76	163	66.4
	10th St E/15th St E	< 50	92	197	67.7
	15th St E/25th St E	57	114	240	68.0
	25th St E/35th St E	< 50	91	191	66.5
	35th St E/47th St E	< 50	< 50	106	64.2
	47th St E/3800' E of 47th St E	< 50	< 50	< 50	55.0

TABLE 3-38 (continued)

Roadway	From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	6 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
Pearblossom Hwy					
	Sierra Hwy/Barrel Springs Rd	68	139	295	69.4
	Barrel Springs/30th St E	< 50	71	152	66.6
	30th St E/35th St E	< 50	109	231	67.7
	35th St E/47th St E	< 50	55	118	64.9
	47th St E/Ave T	< 50	55	118	64.9
Ave T	Pearblossom Hwy/90th St E	< 50	55	118	64.9
	90th St E/120th St E	< 50	< 50	< 50	55.3
Barrel Springs Rd					
	Tierra Subida/Sierra Hwy	< 50	< 50	< 50	52.8
	W of 25th St E/25th St E	< 50	< 50	81	62.4
	25th St E/Pearblossom Hwy	< 50	< 50	81	62.4
	Pearblossom Hwy/40th St E	< 50	< 50	< 50	55.0
	40th St E/Cheseboro Rd	< 50	< 50	< 50	55.0
State Route 138 (SR-138)					
	Ave T/90th St E	91	196	422	73.2
	90th St E/120th St E	91	196	422	73.2
North/South Arterials					
70th St West					
	Ave M/Ave M-8	< 50	< 50	< 50	52.0
	Ave M-8/Ave N	< 50	< 50	< 50	55.0
60th St West					
	Ave M/Ave N	< 50	< 50	51	59.4
Godde Hill Rd					
	60th St W/Elizabeth Lake Rd	< 50	< 50	51	59.4
30th St West					

TABLE 3-38 (continued)

Roadway	From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	6 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
	Ave M/Ave N	< 50	< 50	93	63.3
	Ave N/Ave P	< 50	< 50	64	60.9
	Ave P/Ave P-8	< 50	< 50	64	60.9
25th St West					
	Ave P/Ave P-8	< 50	< 50	79	60.4
	Ave P-8/Elizabeth Lake Rd	< 50	< 50	79	60.4
20th St West					
	Ave M/Ave N	< 50	< 50	52	59.5
	Ave N/Ave P	< 50	< 50	< 50	55.3
15th St West					
	Ave N/Ave O	< 50	< 50	< 50	49.8
	Ave O/Ave O-8	< 50	< 50	< 50	49.8
	Ave O-8/Ave P-8	< 50	< 50	< 50	49.8
10th St West					
	Ave M/Ave N	< 50	51	108	64.3
	Ave N/Ave O-8	< 50	< 50	106	64.2
	Ave O-8/Ave P	< 50	78	162	65.4
	Ave P/Palmdale Blvd	< 50	85	178	66.0
Tierra Subida Ave					
	Palmdale Blvd/Ave R	< 50	56	111	62.9
	Ave R/Ave S	< 50	< 50	66	61.1
	Ave S/Barrel Springs Rd	< 50	< 50	< 50	53.2
5th St West					
	Ave P-8/Palmdale Blvd	< 50	64	121	62.5
	Palmdale/Tierra Subida Ave	< 50	< 50	100	62.1
Division St					
	1500' N of Ave Q/Ave R	< 50	< 50	70	61.4
	Ave R/Ave R-8	< 50	< 50	< 50	54.2

TABLE 3-38 (continued)

Roadway	From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	6 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
5th St East					
	Ave Q/Palmdale Blvd	< 50	< 50	< 50	57.6
	Palmdale Blvd/Ave R-8	< 50	< 50	< 50	57.6
	Ave R-8/Ave S	< 50	< 50	< 50	57.6
6th St East					
	Sierra Hwy/Palmdale Blvd	< 50	< 50	< 50	58.0
	Palmdale Blvd/Ave R	< 50	< 50	84	60.9
Sierra Hwy					
	Ave M/Ave P	71	147	313	69.7
	Ave P/Ave Q	< 50	101	214	67.2
	Ave Q/Palmdale Blvd	< 50	101	214	67.2
	Palmdale Blvd/Ave R-8	< 50	86	180	66.1
	Ave R-8/Ave S	< 50	< 50	91	63.2
	Ave S/1200' S of Ave S	< 50	< 50	73	61.8
	1200' S of Ave S/3000' N of Barrel Springs Rd	< 50	< 50	104	62.4
	3000' N of Barrel Springs/ Pearblossom Hwy	< 50	< 50	67	61.2
	Pearblossom Hwy/SR-14	77	160	341	70.3
10th St East					
	Ave L/Ave M	< 50	< 50	98	63.6
	Ave P/Palmdale Blvd	< 50	< 50	56	60.0
	Palmdale Blvd/Ave R-8	< 50	66	135	64.2
	Ave R-8/Ave S	< 50	< 50	60	60.4
15th St East					
	Ave P/Palmdale Blvd	< 50	< 50	< 50	56.2
	Palmdale Blvd/Ave R	< 50	< 50	54	59.8
20th St East					
	Ave L/Ave M	< 50	< 50	< 50	57.8
	Ave P/Ave Q	< 50	< 50	85	62.8
	Ave Q/Palmdale Blvd	< 50	64	131	64.0

TABLE 3-38 (continued)

Roadway	From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	6 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
	Palmdale Blvd/Ave S	< 50	< 50	90	63.1
25th St East					
	Ave P/Ave Q	< 50	< 50	76	62.1
	Ave Q/Ave R-8	< 50	95	200	66.8
	Ave R-8/Ave S	< 50	92	194	66.6
	Ave S/4200' S of Ave S	< 50	89	185	66.3
	4200' S of Ave S/Barrel Springs Rd	< 50	57	122	65.1
30th St East					
	Ave L/Ave M	< 50	< 50	< 50	55.7
	Ave P/Ave Q	< 50	< 50	70	61.4
	Ave Q/Palmdale Blvd	< 50	67	136	64.3
	Palmdale Blvd/1300' S of Palmdale Blvd	< 50	84	176	66.0
	1300' S of Palmdale Blvd/ Ave R	< 50	68	144	65.6
	Ave R/1000' S of Ave R	< 50	60	121	63.4
	1000' S of Ave R/600' N of Ave R-8	< 50	60	121	63.4
	600' N of Ave R-8/Ave R-8	< 50	60	121	63.4
	Ave R-8/Ave S	< 50	60	121	63.4
	Ave S/1600' S of Ave S	< 50	< 50	< 50	55.4
35th St East					
	Ave Q/Palmdale Blvd	< 50	< 50	< 50	59.0
	1200' N Ave R/Ave R	< 50	< 50	< 50	42.6
	Ave R/Ave S	< 50	< 50	< 50	55.0
	Ave S/1600' S of Ave S	< 50	< 50	< 50	53.2
40th St East					
	Ave L/Ave M	< 50	< 50	< 50	50.7
	Ave N/Ave P	< 50	< 50	54	59.8
	Ave P/Palmdale Blvd	< 50	< 50	< 50	57.6
	Palmdale Blvd/Ave S	< 50	< 50	51	59.4

TABLE 3-38 (continued)

Roadway	From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	6 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
	Ave S/Pearblossom Hwy	< 50	< 50	54	59.8
	Pearblossom Hwy/Barrel Springs Rd	< 50	< 50	< 50	55.0
47th St East					
	Palmdale Blvd/Ave S	< 50	108	228	67.7
	Ave S/Fort Tejon Rd	< 50	108	228	67.7
	Fort Tejon/Pearblossom	< 50	62	133	65.7
	Pearblossom Hwy/Barrel Springs Rd	< 50	63	136	65.8
Fort Tejon Rd					
	47th St E/Pearblossom Hwy	< 50	< 50	76	60.2
50th St East					
	Ave L/Ave M	< 50	< 50	60	60.4
	Ave M/Ave P	< 50	< 50	84	62.6
	Ave P/Palmdale Blvd	< 50	< 50	79	62.3
60th St East					
	Ave L/Ave N	< 50	< 50	< 50	45.0
70th St East					
	Ave L/Ave N	< 50	< 50	< 50	47.2
	Ave N/Palmdale Blvd	< 50	< 50	< 50	47.2
90th St East					
	Ave L/Ave N	< 50	< 50	56	60.0
	Ave N/Palmdale Blvd	< 50	< 50	76	62.1
	Palmdale Blvd/Ave S	< 50	< 50	71	61.6
	Ave S/Ave T	< 50	< 50	71	61.6
	Ave T/SR-138	< 50	< 50	71	61.6
	SR-138/Fort Tejon Rd	< 50	< 50	< 50	51.0
110th St East					
	Ave N/Ave S	< 50	< 50	< 50	54.6

TABLE 3-38 (continued)

Roadway	From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	6 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
State Route 14 (SR-14)					
	Ave L/Ave N	436	937	2,016	81.2
	Ave N/Ave P	420	902	1,941	80.9
	Ave P/Palmdale Blvd	398	855	1,842	81.3
	Palmdale Blvd/Ave S	370	796	1,713	80.8
	Ave S/Los Angeles Forest	375	806	1,735	80.5
	Los Angeles Forest Hwy/ Crown Valley Rd	487	1,047	2,254	82.3

Source: Michael Brandman Associates, 1992.

Noise contours for the existing major transportation noise sources are provided on Exhibit 3-52. The 60, 65, 70, and 80 dB CNEL contours show the integrated effect from all transportation noise sources (aircraft, railway, and roadways where the CNEL contour is greater than 200 feet from the roadway centerline). The noise contours represent unmitigated conditions. Therefore, on roadways where walls, beams, or structures block the noise path, the contours overestimate the noise impact.

The population within each CNEL zone has been estimated in order to identify the number of persons that are impacted by transportation noise. There are approximately 11,546 residents within the City that are exposed to noise levels exceeding 65 dB CNEL, and approximately 19,829 residents that are exposed to noise levels between 60 and 65 dB CNEL.

The dominant feature on Exhibit 3-52 is the 65 dB CNEL contour generated by the U.S.A.F Plant 42. The contour is roughly oval in shape and covers an area from Avenue L-8 on the north to Avenue P on the south, and from 20th Street West to 130th Street East. The existing land uses in the area encompassed by the 65 dB

CNEL contour are the U.S. Air Force Plant 42, open space, industrial, and a few rural residential homes to the north of the plant.

In addition, there are areas frequently overflown by aircraft at low altitudes for take-off, landing and closed pattern flight where short-term noise impacts are between 85 to 94 dBA. The number of flights in the overflight areas can increase by up to 400 commercial flights per day due to the existing joint use agreement between the Air Force and the Los Angeles City Department of Airports. The City of Los Angeles Department of Airports owns over 17,000 acres to the east of Plant 42 and plans to construct the Palmdale Regional Airport on the site.

State Route 14 transects the City from north to south and generates a 60 dB CNEL contour that extends approximately 1,500 feet from the roadway centerline. A substantial number of both single- and multiple-family residential dwellings are located within this 60 dB CNEL contour.

Sierra Highway and the Valley Mainline Railroad run north/south and parallel to one another approximately 6,000 feet east of the Antelope Valley Freeway. The combined noise levels of Sierra Highway and the Valley Mainline generate a 60 dB CNEL contour that extends approximately 1,800 feet from their centerpoint. The majority of the land uses in the area impacted by the 60 dB CNEL contour are commercial and industrial uses. However, a number of single- and multiple-family residential dwellings are located within the 60 db CNEL contour.

The Colton/Palmdale Cutoff railroad line, which branches off from the Valley Mainline Railroad at Avenue R and extends to the east, generates a 60 dB CNEL contour that extends 1,000 feet from the railway centerline and affects single-family residential dwellings in the area.

From 30th Street East to 60th Street East, SR-138 and the Colton Cutoff railroad line run parallel from west to east. Their noise levels combine to generate a 60 dB CNEL that extends approximately 2,000 feet from their centerpoint. Rural residential dwellings lie within this 60 dB CNEL contour.

The section of Palmdale Boulevard from the Antelope Valley Freeway to 47th Street East generates a 60 dB CNEL contour that extends approximately 1,000 feet from the roadway centerline. Land use types within this contour are mostly commercial, but also impacted are single-family residential dwellings.

3.14 LIGHT

3.14.1 NATURAL LIGHT

There are two sources of light experienced in the Palmdale Planning Area, light from natural sources and artificial light. The interaction of natural or artificial light with smooth surfaces, either natural or man-made, may produce glare.

Because of Palmdale's location in the high desert and the low-intensity of existing development in the area and the moderate heights of structures, natural light from the sun and moon is rarely blocked by structures or natural land formations. Most buildings north of the foothills can take advantage of sunlight throughout the daylight hours, relying on artificial light only after the sun sets behind the local mountains. Structures in the foothills experience somewhat shorter periods of sunlight, depending on their exact location. The few tall structures in the vicinity of Palmdale Boulevard and the Antelope Valley Freeway shade small, neighboring structures during some hours of the day.

3.14.2 ARTIFICIAL LIGHT

Artificial light is used to illuminate building interiors and exteriors, and to light parking lots, signage, roadways, and other outdoor facilities (such as parks and sports fields). Most of the streets in the Palmdale Planning Area are not currently lighted at night, with the exception of streets in the more urbanized areas. The exterior of industrial and commercial buildings are generally illuminated at night and some existing uses may provide unwanted light to neighboring land uses. In general, however, the Planning Area produces substantial amounts of artificial light only in the urbanized areas, leaving the balance of the area dark enough to observe the nightly display of stars.

3.14.3 GLARE

Glare produced by sunlight on building surfaces is not generally a problem in the Planning Area because there are few tall buildings with highly reflective surfaces. Drivers may experience glare at certain times of day because of the particular texture and light color of sand and soil in open areas. Lake Palmdale, in the southern portion of the Planning Area, may produce glare from reflected sunlight for northbound drivers on the Antelope Valley Freeway.

3.15 AESTHETICS

This section deals with aesthetics in the Palmdale Planning Area, including viewsheds, scenic highways, and community design. Although individual definitions of beauty vary, the existing natural views and desert characteristics are of great importance to the City and local residents. The area's rapid urbanization and growth, therefore, creates a need for specific measures to preserve significant views and foster development that follows the goals of the community.

3.15.1 VIEWSHEDS

The topography and biotic resources found in the Antelope Valley provide interesting views from many locations. The Lamont Odett Vista Point, off the Antelope Valley Freeway just south of the City, provides a stunning view of the Planning Area and beyond. Lake Palmdale and the City can be seen in the foreground, the Sierra Pelona to the west, the Tehachapi Mountains to the northwest, and the extensive flatlands of the Mojave Desert to the north and northeast. A slightly different view is provided by Godde Hills Road as it winds up the Godde Pass between Ritter Ridge and Portal Ridge on the west side of the City, and overlooks the Antelope Valley. Along Elizabeth Lake Road and Bouquet Canyon Road, in the southwest corner of the Planning Area, one can view a riparian habitat with sycamore and willow trees lining the winding streams along the base of the foothills. Juniper Hills Drive is a circular road on the south side of the Planning Area which is lined with junipers and tamarisks and rises up to 4,000 feet msl. Views of the mountains to the south and west as seen from the valley

floor provide the City with a natural backdrop. The scenic viewsheds discussed above are a few among many in, and around, the Antelope Valley.

Landforms in and around Palmdale form three major, distinct landscape types, the mountains, foothills, and the San Andreas Rift Zone; the alluvial fans; and the desert floor. The mountains, foothills, and the San Andreas Rift Zone are found to the south and southwest of the Planning Area. The high peaks and foothills, with the spectacular geologic formations of the San Andreas Fault Zone, provide an interesting contrast to the gently sloping alluvial fans and flat desert floor with occasional buttes found to the north and east.

3.15.2 SCENIC HIGHWAYS

One of the most common ways to view an area, and also one of the most popular forms of outdoor recreation, is driving for pleasure. Thus, the moving landscape, or scenic corridor, is part of the landscape system, acting both as a connecting element and as a landscape in its own right.

Scenic highways provide the motorist and passengers with visual stimulation and passive recreation. Official scenic highways are designated by the State Scenic Highway Advisory Committee after plans have been adopted and submitted by the local jurisdiction. Highways eligible for such designation are listed in the Streets and Highways Code. Official county scenic highways are also designated by the State Scenic Highway Advisory Committee on application from the local jurisdiction.

In north Los Angeles County, the view from the road is characterized by panoramic vistas of rugged mountains, steep canyon slopes covered with native chaparral and sage, extensive areas of the Mojave Desert, and rural or small-town settings. Thus far, development has not significantly reduced scenic potential in this area. Although many roads in the Antelope Valley may be considered scenic by individuals, only the Angeles Crest Highway (SR-2) from the La Canada/Angeles National Forest boundary to the San Bernardino County Line, has been officially designated a scenic highway by the California Department of Transportation. Los Angeles County, however, has designated the Antelope Valley Freeway as a scenic highway in the Scenic Highways Element of its General Plan.

The Antelope Valley Freeway passes through unusual terrain from the Santa Clarita Valley through the Antelope Valley. The freeway intersects geologic formations resulting from seismic activity along the San Andreas Fault, giving the motorist a firsthand view of the area's geologic history. Other highways in the Palmdale area provide views of desert, hillside, and mountain landscapes, although no other designated scenic highways have yet been named.

The design of a community, when planned in a coherent way, can unify or separate areas and help in defining the image of a city. Logical elements of the design can contribute to a clear "mental map" of the community, easing travel, and making the area more user-friendly.

The Natural Environment

One of Palmdale's greatest attributes is its natural setting. The City is located in the high desert with a dramatic view of the Sierra Pelona and San Gabriel Mountains on the south, and the desert floor to the north and east. The Planning Area is comprised of foothill slopes and desert floor with wide open spaces filled with native plant and animal life.

Approximately 81 percent of the land in the Palmdale Planning Area is vacant. These large expanses of vacant land are part of the attraction and beauty of the City, making preservation of existing views of crucial importance.

The dry, hot summer and cold winter climate in Palmdale, and the frequent strong, sandy winds have urban design implications. Buildings should be oriented, and shade structures built, in response to temperature conditions. Landscaping material is generally limited to drought tolerant plants, reflecting the need to conserve water in the region.

The Built Environment

The image of Palmdale and surrounding areas is one of openness rather than typical urban development. The high proportion of vacant land and the rural character of much of the existing development contribute to this image. Existing residential development is scattered throughout the area, and new development is occurring in a similar fashion. Hillside areas are attracting homebuilders, and new lots are also being built in the southeastern portion of the City and near the city center, among others. To date, there has been no effort to concentrate development around the city core or to create a distinct central area.

The design and placement of development is an important part of a community's overall look or character. For commercial structures as well as residential buildings, architectural details and the relationship of structures to the streetscape and surrounding area are factors contributing to the community character. It is important to residents that the City retain its open, small town feeling, and that it not become a big city with tall buildings and dense urban spaces. Equally important though, is that Palmdale not become a typical suburban city with long, monotonous strips of development.

Design Elements

Entries

The main approaches to Palmdale have natural features that constitute important elements in creating the first impression of the City. From the southern entry there is a view of the entire valley, with Lake Palmdale and the City appearing as an "oasis" amid the desert landscape; from the eastern entry, there are open fields of Joshua trees and the view of the Sierra Pelona Mountains to the south; from the northern entry, large aerospace plants amid open fields of Joshua trees frame the view of the mountains in the background. Entry on the west through Bouquet Canyon or Elizabeth Lake Road is defined by hillsides, soft winding roads, and large open areas.

Circulation

Palmdale is principally an east/west-oriented city with an urban structure defined by many corridors: the Antelope Valley Freeway (SR-14), Palmdale Boulevard, the Southern Pacific Railroad line, the California Aqueduct, and utility transmission lines. These corridors, together with hazards such as floodplains, steep slopes, and the San Andreas fault line, are the principal elements which dictate where development can and will occur. They are important elements in the shaping of Palmdale's physical form, especially because they constitute boundaries for land use and urban design variations.

Palmdale Boulevard is the major east/west arterial in the Planning Area, where most commercial development is concentrated. The intersection of Palmdale Boulevard and SR-14 is a major interchange for Palmdale, it is the point where the two busiest roadways meet and will be a major commercial development node, as well as an entry to the City. It runs the length of the Planning Area, through Joshua tree groves in sandy soil on the east to the busy city center. West of SR-14, Palmdale Boulevard becomes Elizabeth Lake Road and winds through the foothills of Leona Valley.

As a rural community, Palmdale developed along the railroad and highways that carried produce to market. As a result, Sierra Highway, running parallel to the Southern Pacific Railroad (SPRR) tracks, is lined with older commercial uses. The civic center, located at the intersection of Palmdale Boulevard and Sierra Highway, is a city landmark that enhances the importance of both streets.

Elizabeth Lake Road is the extension of Palmdale Boulevard west of the Antelope Valley Freeway. It presents a very different image from Palmdale Boulevard. It runs between Portal Ridge and the Sierra Pelona Mountains where large vacant areas and rural residential developments contrast with nearby urban development.

There are many streets in the area that are marked on the area's grid that have not been built. The City also contains many unimproved (dirt) roads. While this contributes to the area's rural feeling, roads will need to be improved as the area develops to provide an efficient circulation system.

Within the City of Palmdale, there are recognizable areas (or districts) where dominant land uses and activities occur. These districts are reinforced through policies of the Land Use Element of the General Plan. Commercial, residential, and industrial land are dominant in different parts of the City (see Exhibit 3-53) and are described below.

Commercial Districts

Palmdale's main commercial node is located at the intersection of Sierra Highway and Palmdale Boulevard with commercial uses stretching along Palmdale Boulevard from 30th Street East to just beyond SR-14. Within the broad commercial district, there are four identifiable areas, each with a distinct character.

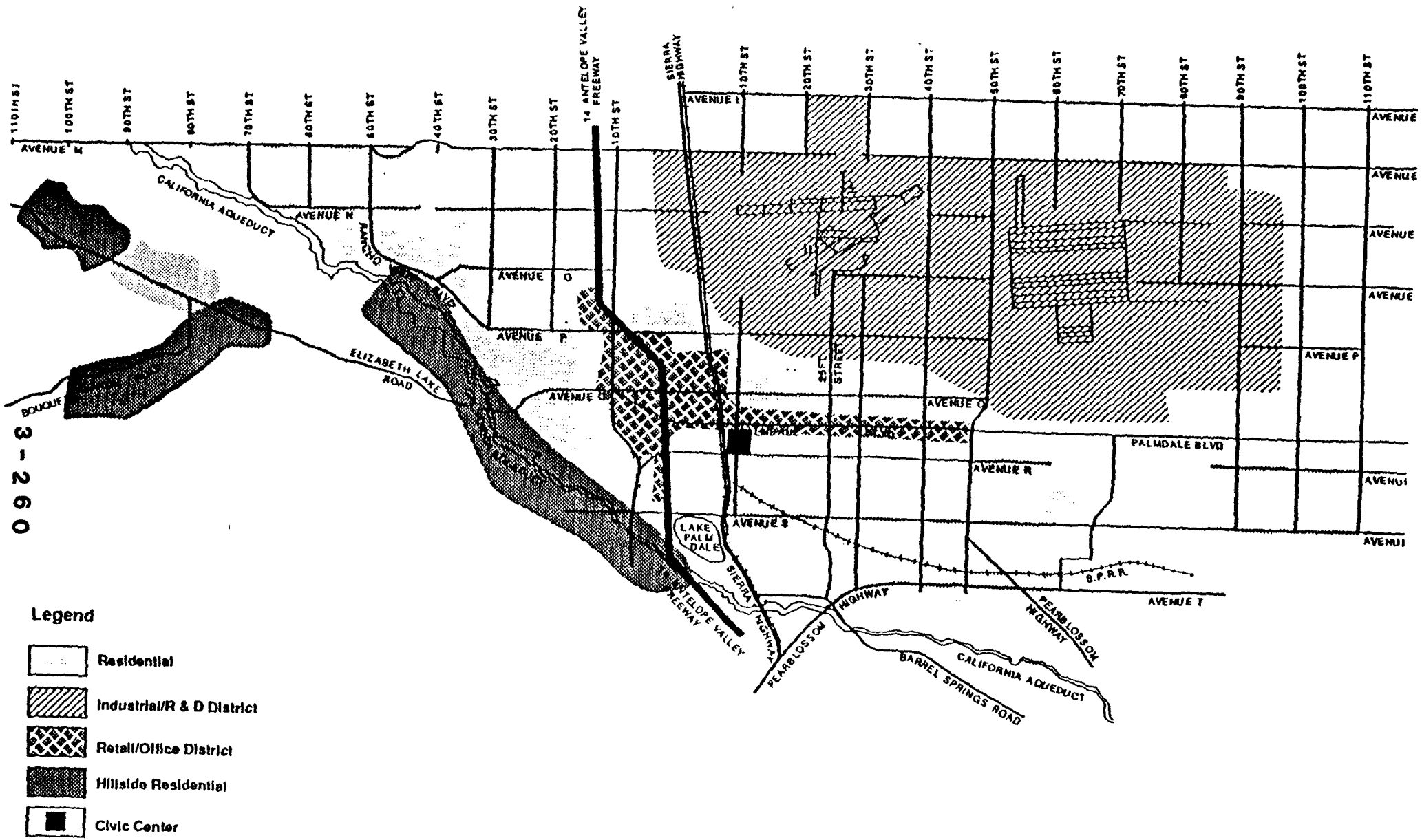
- Regional Commercial
- Civic Center
- Community Commercial
- Neighborhood Commercial

Because of its high visibility, the intersection of SR-14 and Palmdale Boulevard is an important setting for the location of major highway-oriented commercial uses. Three major regional projects have been constructed in the area northwest of SR-14, including a regional shopping mall, an auto center, and the Palmdale Trade and Commerce Center. These three projects have created a strong image along SR-14.

The stretch of Palmdale Boulevard from the SR-14 intersection to the Sierra Highway intersection is characterized by commercial developments of a highway-oriented nature, including hotels, fast food restaurants, gas stations, and small shopping centers. Since this is one of the City's main entries, efforts should be made to create a pleasant and inviting environment.

Civic Center

Immediately east of Sierra Highway, the civic center district has a unique mix of retail, office, and municipal uses. One story commercial buildings adjacent to the sidewalk render a "downtown" character to the area. The



3-260

Generalized Character Districts
Palmdale General Plan

No Scale

North

Michael Brandman Associates

Exhibit 3-53

extensive use of terra cotta tiles on roofs and canopies also unifies the area, making it distinct from other commercial areas.

Community Commercial

The stretch of Palmdale Boulevard immediately east of the civic center area towards 50th Street East is mainly lined with mid-size shopping malls. Most are designed in U-shaped plans with commercial buildings surrounding a parking lot. Most of these shopping malls have been developed recently and incorporate the same terra cotta tiles found in the civic center area. The same type of development is likely to occur on existing large vacant lots in this area.

In addition to the commercial developments along Palmdale Boulevard, there are older, one-story commercial buildings along Sierra Highway. The buildings are separated from the highway by a parallel side street that provides parking for the shops. As Palmdale develops, there will be pressure for redevelopment of these areas, especially in areas near Palmdale Boulevard.

Most neighborhood services, such as cleaners and markets, are found along Sierra Highway and Palmdale Boulevard, although a few are located near other residential developments. As residential areas expand, neighborhood commercial areas will be scattered throughout Palmdale's urban area. Small-scale nodes have the potential to incorporate elements of the urban design character of the area where they are located, constituting the "heart" of each residential neighborhood.

Residential Districts

Palmdale is experiencing rapid residential growth. Hundreds of new homes are being built every year, changing its open, desert image. Most new homes are large, detached, single-family units contained within walled subdivisions. Larger lots and "ranches" found west of the Antelope Valley Freeway have a rural character and retain most of the lots' original vegetation. Most of these hillside residences are one-story ranch style homes, although a few two-story "mansions" have also been built in recent years. Existing older single-family

neighborhoods near the civic center resemble an "oasis" with plentiful green landscaping and mature street trees. Some multi-family apartment units are also found around the civic center area.

Most of the older urban and rural residences blend fairly well with the native vegetation, or are surrounded by mature trees that provide a buffer between the homes and the desert landscape. Some of the new suburban-style tract housing developments, however, provide an obvious contrast to the color and texture of the desert floor. The green grass landscaping outside the subdivision walls and the bright tile roofs on some of the units stand out against the dusty greens of the natural landscape.

Industrial Districts

A large percentage of vacant land in Palmdale, north of Palmdale Boulevard between Sierra Highway and 90th Street East, is currently designated for industrial uses. Many Joshua trees in this area are still in their original setting. The industrial park is one of the land uses with the most potential for retaining the desert image in Palmdale.

Buildings tend to be spaced well away from each other, or are clustered away from other groups of buildings. The original native landscaping works well for industrial buildings and requires no upkeep other than care in not disturbing existing plants.

Signage

Signage, both public and private, is an important element in determining a city's image. When properly controlled and designed, urban signs can enhance the quality of life in the City through ease of communication and can add positive effects to the environment, such as surprise, movement, and scale. The City of Palmdale has developed a sign ordinance in order to control location, size, form, and maintenance of permanent and temporary signs on private property. Article 87 of the Zoning Ordinance regulates signs throughout the City. Implementation of this ordinance will control the excess and misuse of signs which contribute to an unattractive

environment in commercial, industrial, and residential areas. Other measures, such as the development of a unifying public graphic system, can also be utilized.

3.16 CULTURAL RESOURCES

Cultural resources include paleontological resources (the fossilized remains of prehistoric plants and animals), archaeological resources (the artifacts, objects, and sites of the people who occupied the Antelope Valley in prehistoric times), and historic resources (sites, structures, and objects of the people who occupied the valley in historic times).

3.16.1 HISTORIC RESOURCES

This section is based on publications of the Kern-Antelope Historical Society, Inc. and West Antelope Valley Historic Society, and information from the West Antelope Valley Historical Society on potentially historic structures.

Palmdale lies at the intersection of two natural transportation corridors that have been the major routes to and through the Antelope Valley since prehistoric time. Soledad Canyon, one of the few passes through the San Gabriel Mountains, provides access to the Los Angeles basin and other coastal regions. The mouth of Soledad Canyon is a natural terminus for routes across the Antelope Valley to the Owens Valley, Tehachapi Valley, and the San Joaquin Valley. The San Andreas Fault through the foothills and along the base of the San Gabriel Mountains is a well-watered route from Cajon Pass and the Mojave River through the Leona Valley to Tejon Pass and the San Joaquin Valley. These natural transportation corridors were used by the early Indian occupants of the valley, as well as later explorers and historic settlers.

The first known inhabitants of the Antelope Valley were Indians of several tribes who camped on the valley floor and in the foothills of the Littlerock, Elizabeth Lake, Barrel Springs, Lovejoy Springs, and Willow Springs areas.

Recorded history begins in the valley in the late 1700s. Between 1772 and 1857, a number of travelers came through the valley. They included Captain Pedro Fages, Father Garces of the San Fernando Mission, Father Zalvidea, Jedediah Smith, John C. Fremont, Kit Carson, Rogers and Manley, and Lieutenant Edward Beale.

In addition to these travelers, another man, Lieutenant R. S. Williamson, surveyed and mapped the passes through the mountains as possible railroad routes for the Pacific Railroad Survey in 1853.

Cattle and sheep herding began in the western end of the valley in 1855 with Edward Beale's purchase of the La Liebre Ranch. Other settlers came in the 1860s and set up ranches in the Elizabeth Lake region and the southern foothills and the first school was established at Elizabeth Lake. Dry farming and orchards began to develop in the 1890s.

Between 1868 and 1876 Barrel Springs was a station on Remi Nadeau's freight lines through Soledad Canyon. At times, Nadeau had up to 40 freight wagons on the road hauling 130 tons of freight a month between Los Angeles and the Cerro Gordo silver mines in Owens Valley.

The Southern Pacific Railroad completed the San Francisco-Los Angeles line through the valley in 1876. The cheap and rapid transportation it provided allowed homesteading and farming to flourish. This, combined with the wet years of the late 1880s and early 1890s, caused the first boom of the Antelope Valley to develop.

The community of Palmenthal was established in the 1880s by 60 to 70 German immigrant families from Nebraska and Illinois near the present 20th Street East and Avenue R. In 1890 the name of the post office was changed from Palmenthal to Palmdale, and by 1899 the community had moved to the area of the new railroad station.

The foothill communities of Littlerock and Almondale were established during the 1890s. Cattle and sheep herding, mining, and farming (orchards, field crops, and poultry) were the primary occupations in the late 1800s. During the late 1890s drought and lack of clear titles to land caused many settlers to leave. In this same period the first newspaper was published and gold was discovered on Tropico Hill.

The South Antelope Valley Irrigation District (later called the Palmdale Water Company) was formed in 1896. Diversion works on Little Rock Creek were constructed, which consisted of 7 miles of open ditch to transport water (Palmdale Ditch) and a reservoir (Palmdale Reservoir). Agriculture flourished in the Palmdale area from water provided by the Palmdale Ditch until a series of dry winters began, causing the ditch and reservoir to become dry and many of the orchards to be abandoned.

In 1904, gasoline engines were first used to pump water from wells and the alfalfa industry was born. The Owens River Aqueduct, extending from the Owens Valley to Los Angeles, was constructed across the western part of the valley in 1912; however, this water was never available to local farmers.

The Palmdale Irrigation District (Palmdale Water Company) was formed in 1918 and began a joint 5-year construction project with the Little Rock Creek Irrigation District in 1918 for the completion of the Little Rock Dam. The communities of Pearland and Pearblossom were established in the 1920s and pear orchards replaced almonds. Packing sheds and a large ice house were built along the railroad tracks in Palmdale. By the 1920s, pumped irrigation water became relatively inexpensive, and alfalfa spread over the valley. Ample water and the resulting pear orchards, brought the second agricultural boom to the Antelope Valley in the 1920s.

Education facilities began with a series of elementary schools. The founding of the Antelope Valley High School followed in 1912, and the Antelope Valley College opened in 1929.

The depression of the 1930s was very hard on the valley. Prices for agricultural products dropped, blight struck the pear orchards, mortgages were foreclosed, and people left in increasing numbers. Conditions only began to improve in the late 1930s as the war in Europe caused the demand for agricultural produce to increase and war industries to develop.

World War II saw training activities established at Muroc Dry Lake (now Edwards Air Force Base), War Eagle Field (now Mira Loma), and a training facility for B-52 pilots at Palmdale Airport. Tremendous increases were made in the agricultural output of the valley to support the war effort.

The agricultural period in the Antelope Valley lasted through World War II and into the 1960s. By that time, almond orchards had been largely replaced by pears, and the pear blight almost wiped out the pear orchards. In addition, the lowered water table made it too expensive to pump irrigation water. Poultry raising boomed for a time and potatoes and sugar beets were raised in some areas of the valley. Overall, agricultural output was rapidly decreasing.

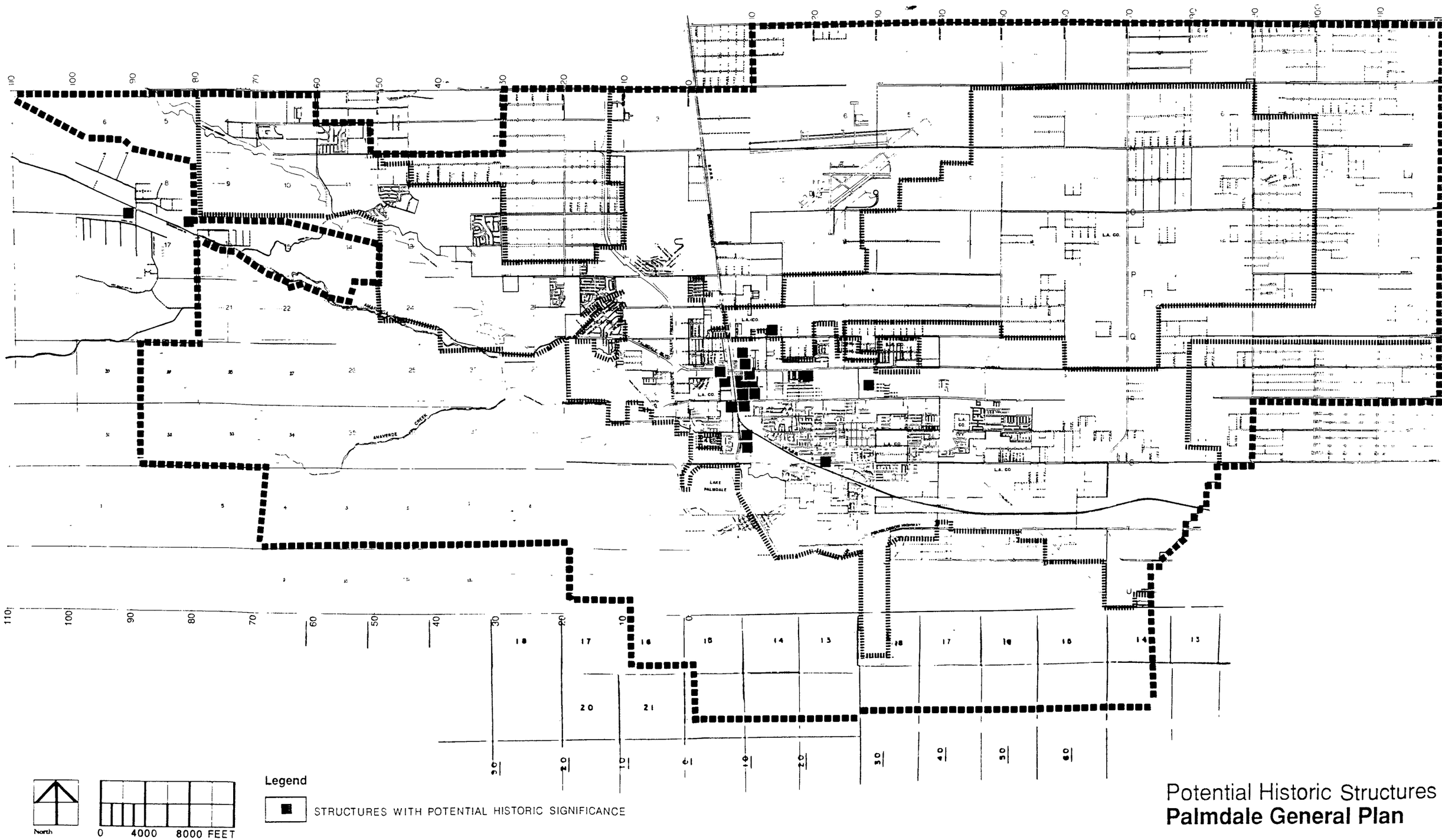
The third boom in the Antelope Valley was brought about by the aircraft industry. After World War II, the Air Force established Plant 42, and during the early 1950s aircraft industries moved to the valley from more congested areas of the Los Angeles basin. By the end of the decade, decreasing spending for aircraft by the Defense Department combined with lowered agricultural output caused a downturn in the economy of the valley.

In 1962, Palmdale became the first incorporated city in the Antelope Valley, and 5 years later, the movement to develop the Palmdale International Airport began. The airport is now designated as the Palmdale Regional Airport. The Air Force and the Los Angeles City Department of Airports have signed a Joint Use Agreement that allows commercial flights, as well to use the runways and facilities at USAF Plant 42. Commercial flights began in 1988. Up to 400 flights a year may take place under the agreement.

The construction of the California Aqueduct and the Antelope Valley Freeway in the 1970s brought additional water and accessibility to the valley. The increased availability of water and improved transportation make the valley a desirable place to locate industrial development, and homes for commuters, from the Los Angeles basin.

The most recent boom in the valley occurred during the 1980s when affordable housing available to commuters from the Los Angeles basin brought a residential construction boom, and increased production at Air force Plant 42 brought jobs to the area. The vastly increased residential, commercial, office, and industrial development in the City of Palmdale during the 1980s made it the fastest growing community in California during the decade, according to the 1990 Census figures.

Potentially historic sites that exist today have been listed by the West Antelope Valley Historical Society for management consideration. Thirty-two potentially historic structures and sites have been identified. Please refer to Appendix G, Table G-1 for a listing of potential historic structures. The sites include early homes, a former



Potential Historic Structures
Palmdale General Plan

Exhibit 3-54

ice house, the Bank of Italy, Moore's Hall, and the original Safeway store in the older portions of the city around Sierra Highway and Palmdale Boulevard. Other sites include the Old Palmdale Cemetery, Riviera Cemetery, Barrel Springs, and the Palmdale Reservoir. Exhibit 3-54 depicts the location of potential historic structures. Potentially historic ranch sites are John Ritter Ranch, Winery Rouff Ranch, and St. Anthony's Ranch. The list is primarily based on the structure's existence for at least 50 years. Historical significance cannot be determined until further studies can be made.

3.16.2 ARCHAEOLOGICAL RESOURCES

The majority of the archaeological investigations in the Antelope Valley have been conducted in the past 20 years. Results from these investigations point to a lengthy prehistoric tradition. However, archaeologists have developed a number of interpretations of the cultural history of the valley and the chronology of human occupation.

Those interested in detailed information are referred to overviews such as An Introduction to the Archaeology of the Western Mojave Desert, California by Mark Q. Sutton (1988), the Cultural Resources Overview for Edwards Air Force Base by Roberta S. Greenwood and Michael J. McIntyre (1980), "Prehistory of the Antelope Valley California: An Overview," Antelope Valley Archaeological Society Occasional Paper 1, Roger W. Robinson ed., Antelope Valley Archaeological Society, Lancaster (1987), Ritter Ranch Specific Plan, LSA Associates, Inc., 1989, and "Archaeology and Ethnohistory of Antelope Valley and Vicinity, "Antelope Valley Archaeological Society Occasional Papers No. 2," Bruce Love and William H. De Witt eds., Antelope Valley Archaeological Society, Lancaster (1990).

Definitive evidence to specify a time span for the earliest occupation of the Antelope Valley and the Palmdale area has not been identified as yet. Investigations on Edwards Air Force Base completed by Archaeologist Richard Norwood indicate that early occupants of the valley may have been present at the end of the Pleistocene period, more than 8,000 years ago. This is a time when mega fauna (large vertebrate mammals) were present and climatic conditions were becoming warmer and dryer following the cool wet period during the Pleistocene.

Projectile points (spear or arrowheads) found in archaeological sites are indicators of the time period when a site might have been occupied. Although some artifacts that seem to be potentially from this period have been collected on the base, no fluted points indicative of the hunting of mega fauna have been found.

There are 12 sites on the base with projectile points of the later period from 8,000 to 2,000 years ago. These include the Silver Lake, Lake Mohave, Gypsum Cave, Pinto series, Elko series, and Humbolt series. Norwood speculates that some of these points could occur in Palmdale (Norwood 1987:104).

Archaeologist Bruce Love's investigations at the Barrel Springs site in the southern portion of the Palmdale area have shown that this site in the Palmdale area has been inhibited for the past 5,000 years (Love 1989).

Petroglyph, cupulas, bedrock milling sites, stone tools, evidence of tool manufacturing, pit ovens, and schist slab hunting blinds were discovered in the Ritter Ranch area. In all, there are 14 prehistoric and four historic sites identified for preservation. These include a cattle ranch, a ranch complex, and three debris dumps. A total of 68 sites have recently been identified on the Ritter and City Ranch project areas.

Many archaeological sites within the Antelope Valley date from 2,000 years ago to the time just before historic exploration in the 1770s or to shortly after settlement in the 1870s. These sites contain small points and limited ceramics.

The cultural identities of the earlier prehistoric peoples are unknown.

In late prehistoric and early historic times, the native groups proposed by various archaeologists to have occupied the area in and around the Antelope Valley include the Kitanemuk on the north in the Tehachapi Mountains, and on the northern and western portions of the valley floor; the Kawaiisu in the Sierra Nevada Mountains east of the Kitanemuk and seasonally on the northern portions of the valley floor; and the Vanyume/Serrano to the east on the desert floor and the northern slope of the San Bernardino Mountains. The Tatavium were principally located in the Santa Clara drainage to the south and may have been occupants of the San Fernando Valley along with the Chumash. Their territory may have extended into the southwestern corner of the Antelope Valley in the La Liebre Mountains and possibly the Elizabeth Lake area.

Indications are that the Tatavium occupied some of the southwestern portions of the valley, the Kitanemuk occupied the northern portions of the valley, and the Serrano/Vanyume occupied the eastern portions of the valley floor and the northern slopes of the San Bernardino Mountains. However, it should be remembered that the boundaries were probably fluid and they are subject to much interpretation.

A number of village sites have been identified by David Earle's ethnographic research (Earle 1990). These sites are located on the Antelope Valley floor, in the Leona Valley and Elizabeth Lake/Lake Hughes area, and in the foothills around the Antelope Valley. Two major aboriginal trails are known. One of these trails extends from Big Rock Creek Canyon in the southern portion of the valley to Lovejoy Springs on the valley floor and then to Oak Creek Canyon on the northwest. The other leads from the Tehachapis to Willow Springs, Elizabeth Lake, and then along the foothills to Big Rock Creek and over to the Mohave River.

The Kitanemuk, Vanyume/Serrano, and Tatavium were Shoshonean groups who spoke a language from the Takic branch of the Uto-Aztecan language family, while the Kawaiisu spoke a language from the Numic branch. The Tatavium and Kitanemuk differed culturally from other Shoshonean groups because of close associations with non-Shoshonean neighbors.

All groups practiced a hunter/gather subsistence strategy which was dependent on the numerous plant communities and the varied faunal resources within them. Game animals such as mule, deer, antelope, blacktailed jack-rabbit, cottontail rabbits, and other small mammals and birds were hunted or trapped. Bulbs, roots, seeds, fruit, leaves, bark, fibers, and stems of a wide variety of plants were used as food and materials for manufacturing.

The archival record search in 1988 produced 38 recorded archaeological sites within the Planning Area. Two of these sites are historic, while the remaining are prehistoric. The sites identified in City Ranch add 28 new prehistoric archaeological sites and 1 historic archaeological site. The prehistoric sites include "lithic scatters, hunting blinds, bedrock milling features, and in two instances, rock art." The rock art is composed of cupule boulders (Van Horn et al 1989), and a survey of 10th Street West assessment district (Wessel et al 1989) identified one historic trash scatter (LAn-1554H). An additional 20 historic sites have been identified in the last 2 years as a result of various surveys.

Recorded Prehistoric Sites

Please refer to Table G-2 in Appendix G for a summary of recorded prehistoric archaeological sites.

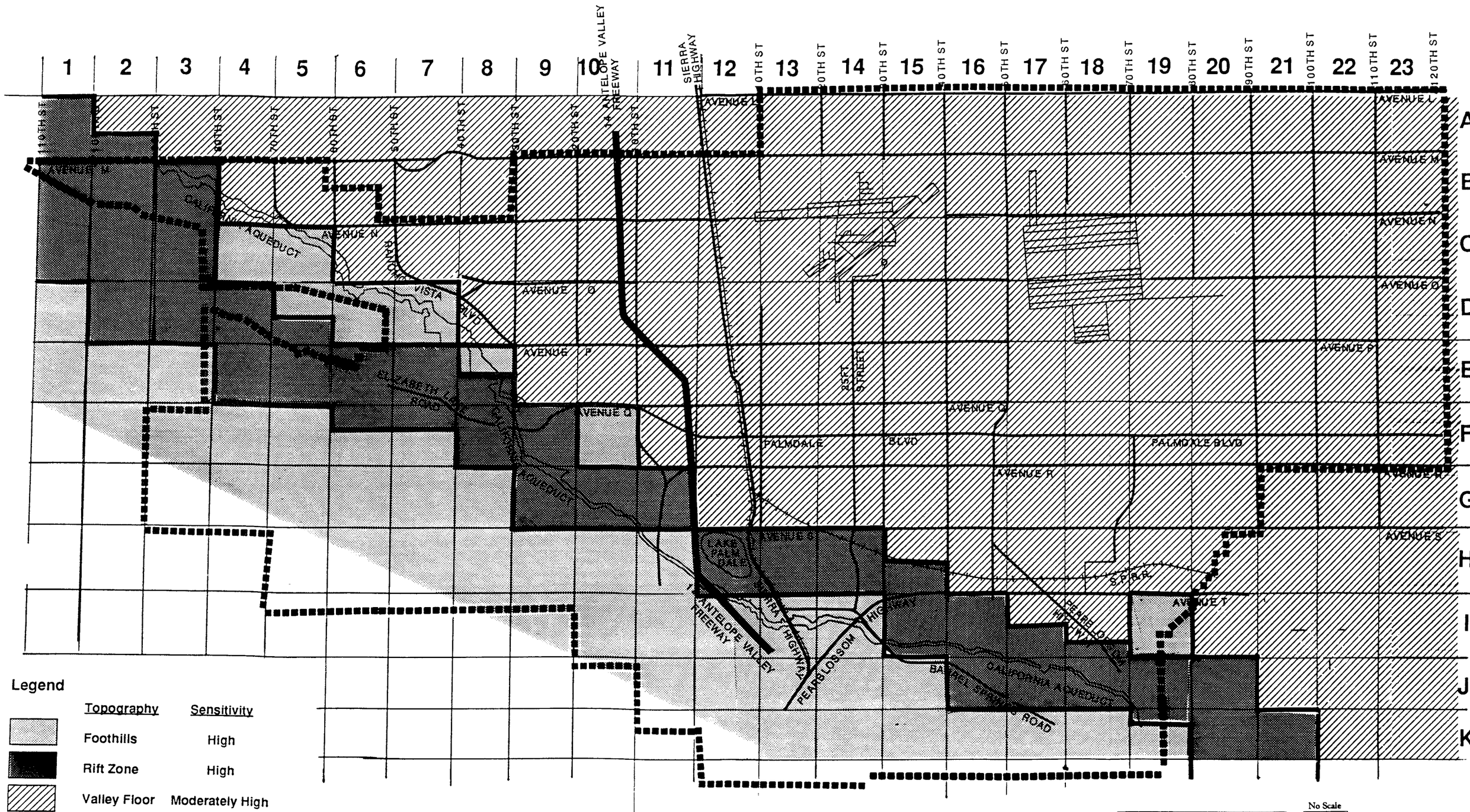
Recorded Historic Archaeological Sites

As of 1988, there were three historic sites recorded within the Palmdale Planning Area. They include LAn-1365H, LAn-1367H, and LAn-1554H. Please refer to Appendix G, Table G-3 for a summary of recorded historic archaeological sites within the Palmdale Planning Area. Two sites are located north of Avenue P and east of Sierra Highway, and the third is located in the 10th Street West Assessment District. An additional 27 historic sites have been recorded with the UCLA Archaeological Information Center during 1989 and 1990.

A number of excavation projects have been conducted to determine the importance of resources and to salvage them prior to development. Current archaeological investigations in the rift zone have uncovered stone tools and ash lens at the Barrel Springs site which pushes Palmdale's prehistory back to 5,110 years ago. Also under exploration is a large site on the valley floor at Lake Los Angeles.

Within the rift zone there are several sources of water, such as Amargosa Creek, Little Rock Creek, Big Rock Creek, Anaverde Creek, Barrel Springs, and numerous other springs and intermittent streams. Plant and animal resources are plentiful in the rift zone due to the presence of ecotones (transition zones between plant communities) where a greater variety of plant species are present and a greater number of animal species live. Given the number of sites recorded in the rift zone, along with the availability of water and food resources, it can be suggested that this is an area of high archaeological sensitivity, as there is a high probability of more sites existing in this area.

The foothill areas are found both north of and south of the rift zone, in the south and western sections of the Planning Area. Many of the archaeological sites are in the foothill area and include bedrock milling sites, habitation sites, quarries, rock art, numerous lithic workshop sites, cementaries, hunting blinds, and cupule sites. Many of the creeks and streams found in the rift zone and on the valley floor begin in the foothills. These provided generally reliable sources of water for the prehistoric inhabitants of the area. Springs and marsh areas



Legend

Topography	Sensitivity
Foothills	High
Rift Zone	High
Valley Floor	Moderately High
Not Surveyed	Unknown

Archaeological Sensitivity Map
Palmdale General Plan

Exhibit 3-55

in the rift zone also provide additional food resources. The probability of additional sites existing in the foothill areas is high and with the addition of large areas within the foothills to the Planning Area, the probability of locating new sites increases.

The seven recorded prehistoric sites found on the desert floor areas of the Planning Area include a bedrock mortar, lithic scatters, food processing stations, and possible habitation sites. Included in this area are the flat, sandy plains, the alluvial slopes, Quartz Hill, the western slopes of Alpine Butte, dry washes and channels, and the developed areas of Palmdale. Sites on the desert floor are widely distributed. Due to the comparative rarity of these sites versus the rift zone sites, they may be accorded a greater significance value when they are identified. A number of historic sites are located in this area. The probability of discovering additional prehistoric and historic sites appears on the valley floor to be moderately high. Exhibit 3-55 provides a map of archaeological sensitivity based on these findings.

3.16.3 PALEONTOLOGICAL RESOURCES

A paleontologic sensitivity study (April 1990) has been prepared on a citywide basis by Robert E. Reynolds, Curator of Earth Sciences at the San Bernardino County Museum. Research included an examination of geologic mapping, paleontologic and geologic literature, a search of institutional site records at the Natural History Museum of Los Angeles County, the University of California, Riverside, and the Regional Paleontologic Locality Inventory at the San Bernardino County Museum. This evaluation of the City's paleontologic resources is based on that study.

Twelve rock units were identified citywide. The units were evaluated for both identified paleontological sensitivity and potential paleontological resources, and frequently were assigned to one of three classifications. Five of the 12 units were classified as having high sensitivity (high potential) for paleontological resources; two units were placed in the classification of unknown sensitivity (unknown potential); and five units were determined as having low sensitivity (low potential) for paleontological resources.

- **High Potential**. The study found that the Palmdale Planning Area encompasses five sedimentary rock units which have produced significant nonrenewable plant and vertebrate

paleontologic resources. The age of the rock units vary from 12 million to 10,000 years. These rock units include the Punchbowl Formation, the Anaverde Formation, the Harold Formation, Nadeau Gravels/Pleistocene old alluvium, and Pleistocene Lacustrine and Fluvial Sediments. These units have a very high potential to produce future discoveries of significant resources.

- **Punchbowl Formation**. No paleontological surveys have been completed in this formation. However, extinct horses, camel, antelope, mustellid, and bear have been identified within the formation. The Punchbowl Formation is late Miocene (approximately 12 million years old).

- **Anaverde Formation**. Fossil plants have been identified at seven localities in this formation. One of these sites produced fossils of 19 species of plants. A recent survey identified the first vertebrate fossils. This formation was formed approximately 8 million years ago.

- **Harold Formation**. There are six identified paleontologic sites within the Harold Formation. One major site produced vertebrate fossils including mammoth, mastodon, horse, camel, meadow mouse, wood rat, lizard, and snake. The formation was formed about 800,000 years before the present.

- **Nadeau Gravels and Pleistocene Old Alluvium**. Locally, the four sites within the Nadeau Gravels and Pleistocene Old Alluvium have produced vertebrate fossil remains. There are over 120 sites identified in these deposits on Edwards Air Force Base. The deposits were formed about 500,000 years ago.

- **Pleistocene Lacustrine and Fluvial Sediments**. These sediments are known to contain vertebrate fossils. Over 180 resource localities have been identified on Edwards Air Force Base. Late Pleistocene fauna from these deposits include gastropods, clams, fish, lizards, snakes, birds, cottontail, jack rabbit, pocket mouse, kangaroo rat, gopher, deer mice, wood rat, meadow mice, and ground squirrel. These deposits are about 10,000 years old.

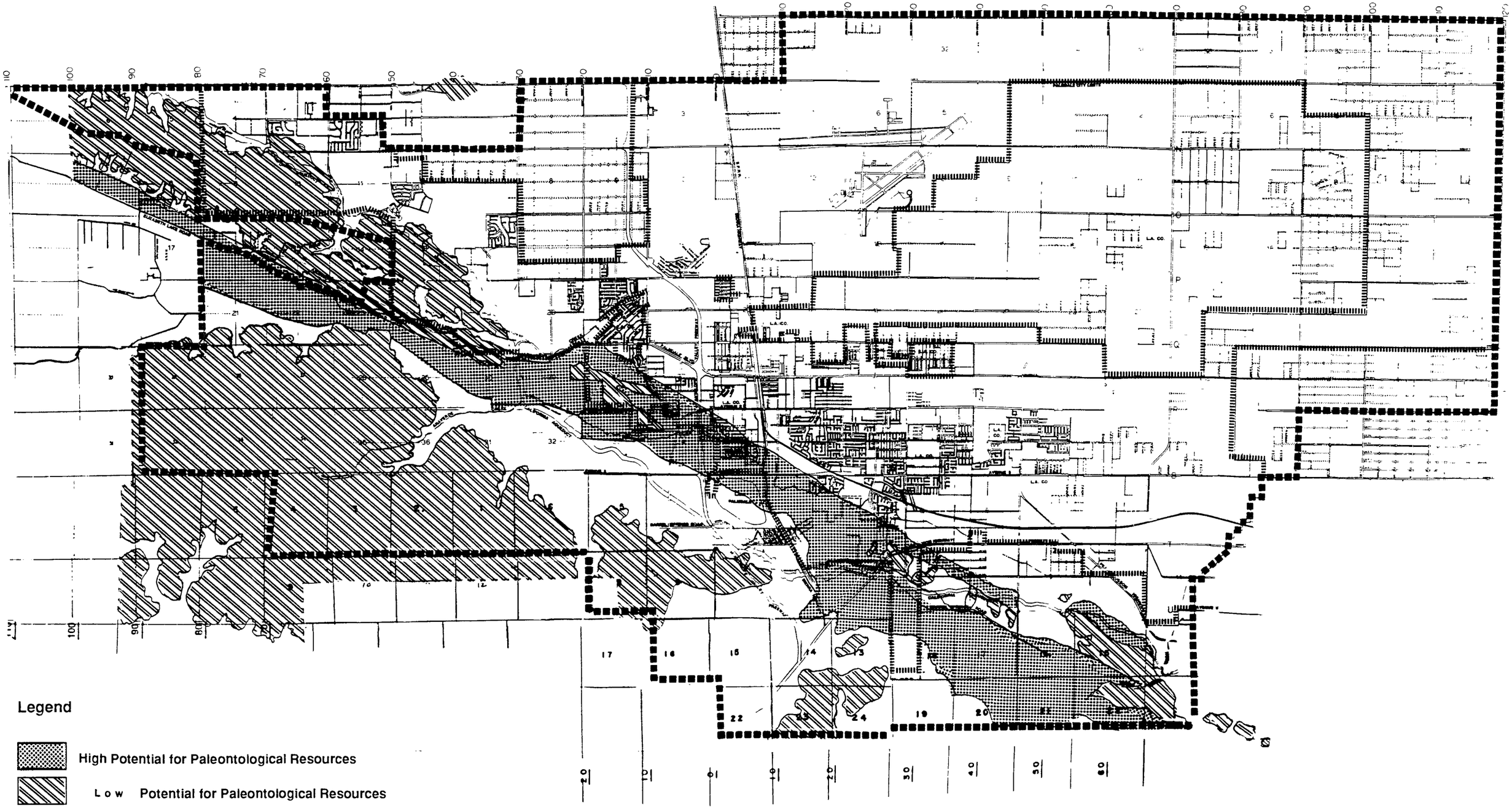
- **Unknown Potential**. The Vasquez Formation and the extensive deposits of Pleistocene alluvium have not been subject to field assessments for resources by qualified paleontologists. The Vasquez Formation is probably of Oligocene age (38 to 22.5 million years) and has an unknown potential for producing paleontological resources.

  The Pleistocene alluvium (10,000 years) deposits in the Palmdale area are covered by a thin cover of recent alluvium, and their potential for producing resources is unknown due to lack of study.

- **Low Potential**. Igneous and metamorphic rock units in the Planning Area have a low potential to produce significant paleontologic resources. These rock units include Precambrian Pelona Schist, Mesozoic metavolcanics, Mesozoic granite, quartz monzonite, and diorite.

Generally, areas of high potential are present along the San Andreas Rift Zone throughout the Planning Area from Leona Valley to Littlerock. Areas of low potential are present on portions of Portal Ridge, Ritter Ridge, and the Sierra Pelona, and areas of unknown potential are present on the valley floor (see Exhibit 3-56).

There is a high probability of identifying additional paleontological sites as general plan buildout occurs.



Paleontological Sensitivity Map
Palmdale General Plan

Exhibit 3-56

SECTION 4

PROJECT IMPACT ANALYSIS

The environmental impacts of the proposed General Plan are analyzed in this section. The major impacts are associated with the expansion of the City's Planning Area, the revised land use plan, the proposed circulation plan, and the proposed housing program. A summary of the impacts is presented as Table 1-1, in Section 1 and as Table 4-1 in this section.

The goals and policies of the proposed General Plan address the same concerns as this EIR and cross-references are provided in Table 1-2. These policies will be used as guidelines in City decision making and, thus, can serve as mitigation measures for the impacts of the General Plan. In the same manner, the implementation sections of the eight elements of the proposed General Plan contain programs which will serve as citywide actions and measures to mitigate the adverse impacts of future development that will occur under the proposed land use plan. They include development standards, existing programs and ordinances, and future programs.

Project level mitigation measures are recommended where appropriate, as well as other measures to reduce impacts to insignificance.

4.1 SUMMARY OF IMPACTS

The following chart summarizes the impacts of the proposed Palmdale General Plan.

TABLE 4-1

SUMMARY CHART

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
GEOLOGY		
Future development under the proposed land use plan will both impact, and be impacted by, the area's geology. Development is of particular concern in areas with slopes exceeding 25 percent. Areas of soil expansion, erosion, infiltration, subsidence and hydrocompaction may also significantly impact development. As the Planning Area is situated within a seismically active region, the risk to residents due to earthquakes, and related groundshaking and liquefaction, is considered significant. The proposed General Plan includes standards and programs to restrict development on these areas and reduce hazards to residents.	The Safety Element contains guidelines and programs to reduce impacts of geologic hazards on development. These include public safety programs, existing hazardous buildings inventory, relocation/rehabilitation programs, geologic investigation, construction and land use standards, special study zones, volunteer training programs, emergency management, public information and education, City emergency preparedness plan, emergency shelters, mutual aid, emergency funds, development review, zoning ordinance/land use plan, building and seismic codes, CEQA review, public records of hazards, public safety standards for construction and development, hillside development standards, and land use planning.	Geologic hazards will be mitigated to an insignificant level. However, earthquake hazards due to the Planning Area's proximity to the San Andreas Fault will remain significant.
AIR QUALITY		
Expected population growth will increase air pollutants associated with short-term construction activity and in long-term emissions associated with new	The Environmental Resources Element and Circulation Element contain goals, policies, and implementation measures to maintain air quality while	Air quality degradation due to future development in the area will be reduced by the achievement of goals and implementation programs

TABLE 4-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
AIR QUALITY (continued)		
stationary sources, vehicular traffic, airport operations, railroad operations, utility use, and service facilities. Levels of pollutant emissions in the Planning Area will exceed national and state standards of clean air unless anti-pollution programs are established.	accommodating growth. Transit improvements, transportation systems management programs, and other trip reduction methods, and plans and policies of the General Plan will be required for individual developments. Traffic and transit improvements that would reduce air emissions are included in the Circulation Element.	contained in the City's Environmental Resources Element and Circulation Element. However, the amount of development anticipated under the proposed land use plan and the number of vehicle trips resulting from development allowed under the General Plan will produce air emissions that cannot be mitigated to less than significant levels.
WATER RESOURCES		
Future development will result in the increase of impervious surfaces (buildings and pavement) that prevent absorption of groundwater and increase the potential for flooding. New commercial and industrial uses would also contribute to potential urban runoff contamination. Increases in development intensify the demand for both groundwater and aqueduct resources to supply the needs of future residents and development. The California Water Project's inability to deliver current water entitlements places a greater dependency on	The Safety Element contains a number of policies and programs that will reduce the future impacts on water resources. These include CEQA review, mining standards, landscaping standards, groundwater recycling and reuse, Master Drainage Plan, water quality monitoring, water conservation techniques, public information and education, City emergency preparedness plan, public records of hazards, regional coordination, floodplain development standards, and land use planning. In addition, implementation of measures for water conservation and recycling, recharge of the groundwater	Development will continue to place greater demands on local groundwater resources. If water conservation and recharge programs are successful, no significant impacts to water resources will remain after mitigation. Implementation of landscaping, drainage, and safety programs will reduce potential flooding impacts to less than significant levels. Cumulative impacts to groundwater resources could be significant.

TABLE 4-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
WATER RESOURCES (continued)		
groundwater resources. The future availability of additional water from the California Water Project has not been determined at this time.	basins, and preservation of groundwater resources will mitigate adverse impacts. Programs in the Environmental Resources Element, and the Public Services Element will reduce impacts on water resources and flooding potential in the area.	
BIOLOGICAL RESOURCES		
The proposed land use plan designates residential, commercial, and industrial land uses in the Planning Area. Ecological systems will be disrupted by the intensification of development on the natural desert environment, and open space, vegetation, and habitat will be lost. Development of these areas will significantly impact biological resources in currently undeveloped areas.	The implementation programs of the Environmental Resources Element provide development standards for sensitive ecological areas and for preservation of open space and biological communities. These programs include preservation of native desert vegetation, landscaping standards, mining standards, and open space and conservation plans. Measures to maintain species diversity and avoid the loss of sensitive plants and animals have been outlined. Directed surveys for any development in SEA overlays, acquisition of wetland areas, preservation of drainages, and the maintenance of Joshua tree woodlands and other significant habitat areas are also programs of the City to reduce biological impacts.	The destruction and displacement of biological resources in the Planning Area will remain significant even after mitigation measures are implemented.

TABLE 4-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
NATURAL RESOURCES		
The proposed land use plan anticipates continuous urbanization of the Planning Area which will impact natural resources in the area. Development may identify additional resources, limit access to underground resources, allow immediate use of the resources, or destroy them. The spread of urban development in proximity to quarry operations could reduce areas available for resource extraction and limit operations. Development of existing vacant areas will result in a loss of open space which will result in a loss of vegetation and habitat.	The Land Use Element and Environmental Resources Element contain policies and conservation programs to reduce the impacts of development on natural resources in the Planning Area. These programs include establishment of a mineral resource extraction land use designation, performance standards for sensitive ecological areas, reclamation plans for mining operations areas, mining standards, open space network and design features, development clustering standards, hillside ordinance, open space and conservation plan, parkland or open space dedication, and CEQA review.	With implementation of mitigation measures, impacts on mineral resources will be reduced to a less than significant level. The loss of open space resulting from development allowed under the proposed plan will remain significant even with implementation of mitigation measures.
LAND USE		
The designations in the Land Use Element cover 111,527 acres. The proposed plan features new land use designations and the intensification of land use. Buildout at target capacity will mean the development of approximately 139,205 dwelling units; 51.8 million square feet of commercial land use; 613 million square feet of industrial land; and 3.8 million	The following measures in the Land Use Element are designed to address land use distribution, capacity, and compatibility issues: General Plan land use map, zoning consistency, City development code, downtown overlay district, development review process, special development areas, coordination of land use decisions,	With implementation of mitigation measure, impacts on land use distributions and compatibility would be reduced to a less than significant level.

TABLE 4-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
LAND USE (continued)		
square feet of public facility land use. Open Space and parks will account for 9,458 acres in the Planning Area. Land use conflicts may occur in the following areas: between the West Alpine Butte Sanctuary park and surrounding industrial uses; between the business park area between Avenue Q and Avenue P and adjacent low density residential areas; residential areas surrounding landfill sites; quarrying and mining activities on Little Rock Wash and surrounding residential uses; residential uses adjacent to the airport and related uses, business park, and industrial land use; residential uses adjacent to regional commercial at the intersection of Fort Tejon Road and Avenue T; residential uses adjacent to business park at the intersection of Pearblossom Highway and Sierra Highway; residential uses adjacent to the railroads and Antelope Valley Freeway; the Industry Trade Center and adjacent equestrian residential areas; and the residential uses within the San Andreas Rift Zone. With approximately 80 percent of the area currently vacant, development will increase by more than six-fold the existing urban uses.	annexations, air quality, community outreach, economic development, redevelopment, and subsequent review.	

TABLE 4-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
LAND USE (continued)		
Future development will provide more housing and jobs for Palmdale and the Antelope Valley, and will increase service demands.		
POPULATION		
The existing 1992 population of the City of Palmdale is 84,238 residents and the population of the Planning Area is estimated at over 100,000 people. The proposed land use plan will increase the dwelling unit capacity in the Planning Area to 139,205 units with a resident population of 441,280 persons at target buildout. This is 5.2 times the existing population of the City. Impacts associated with growth include increased demand for public services and infrastructure, urban use of existing open space areas, disturbance of natural vegetation and wildlife habitat, traffic generation, and increased in noise and air pollution.	The impacts of population growth are associated with the impacts of urbanization and development. They include changes in geology, air quality, land use, biological resources, natural resources, light, noise, aesthetics, traffic, and public services. Mitigation measures are discussed under each issue area in this EIR. A strategy for achieving a jobs/housing balance should be introduced to reduce traffic impacts, noise, air pollution, and other effects of jobs/housing imbalance. Future annexations to the City, outside the current Planning Area, should be encouraged for residential development to help alleviate the anticipated job-rich condition at buildout, should it appear that nonresidential development is occurring at a rate to facilitate such a job-rich condition.	Most impacts of population growth would be mitigated to less than significant levels. However, a significant impact on jobs/housing balance would remain after mitigation.
Increased capacities for commercial and industrial development in the Planning Area will increase employment growth, resulting in a substantial jobs/housing imbalance if		

TABLE 4-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
POPULATION (Continued)		
employment growth is not matched by adequate housing development.		
HOUSING		
The 1992 housing stock in the City of Palmdale is 29,348 units and the 1992 housing stock for the Planning Area is estimated at over 35,000. At buildout, the proposed land use plan has a capacity for approximately 139,205 dwelling units. This is 4.7 times more than the existing stock in the City. Housing development will require the provision of support services and infrastructure. Housing availability will provide a competitive market and greater opportunity for housing ownership and affordable units. However, the low densities established in the proposed land use plan may make production of affordable housing difficult. With the increase in nonresidential development exceeding growth, the local labor market may provide more jobs than can be filled by local residents.	New housing development; ordinances for density bonus, second units, alternate housing types, and condominium conversion standards; minimum residential standards; programs for inclusionary housing, first-time homebuyers, housing set-asides, mortgage revenue bonds, replacement and affordable housing land banks, redevelopment loans, rental and replacement housing construction, housing impact review, habitability standards; handiworkers/housing repair; participation in rental rehabilitation programs; programs for mobile home rent control, lease terms, and rehabilitation; programs to improve neighborhood quality, provide tenant assistance; housing needs assessment and special needs site review; involvement with federal, county and regional programs; programs for senior housing, dependant, homeless persons and the disabled are all proposed in the Housing Element in order to reduce impacts on housing.	A significant impact on jobs/housing balance in the Planning Area will remain after implementation of mitigation measures.

TABLE 4-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
TRAFFIC AND CIRCULATION		
The Circulation Element supports the proposed land use plan. The circulation plan proposes to upgrade many roadways to major urban arterials, anticipates new and expanded freeways and utilizes transportation demand management measures. Buildout under the proposed plan will result in 13 roadway segments operating at LOS D or E. Population growth will increase the demand for public transit services and commercial air service Use of bicycle routes, equestrian trails, and truck routes will also increase.	The impacts of the proposed plan on traffic and circulation shall be mitigated through policies and implementation programs set forth in the Circulation Element, including the adoption and implementation of a street and highway plan designed to meet existing and future circulation needs through programs such as street and signalization improvements, the upgrading of streets to urban arterials, promote regional arterial links, maintain a city traffic model, and the use of transportation demand management measures.	The efforts prescribed in the Circulation Element, in addition to the policies contained in the proposed Land Use Element and other elements, would mitigate a majority of the traffic impacts. However, 11 roadway segments will be operating at LOS D or worse at buildout. Traffic impacts will remain significant after mitigation.
PUBLIC SERVICES		
Fire Protection		
Fire protection demand will generally increase with the rate of development. A higher population density will result in a greater potential for fires due to man-made causes.	The Public Services Element includes the following policies and implementation measures to reduce impacts on fire protection services: coordination with the Los Angeles County Fire District, CEQA review process, service commitment for new	No significant impacts after mitigation.

TABLE 4-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
PUBLIC SERVICES (continued)		
Fire Protection (continued)		
	development, development plan review, enforcement of building codes, and public awareness programs.	
Police Protection		
The anticipated increase in development density and population that will accompany future growth in the Palmdale area will result in the increasing need for law enforcement and police protection.	The Public Services Element includes the following policies and implementation measures to reduce impacts on police protection services: coordination with the Los Angeles County Sheriff's Department, CEQA review process, service commitment for new development, development plan review, enforcement of building codes and public awareness programs.	No significant impacts after mitigation.
Schools		
The proposed land use plan increases the development capacity of the Planning Area which will produce a larger student population and a need for expanded facilities. The proposed land use plan has a target capacity 139,205 dwelling units. This could generate an elementary student population of 50,847 students and a high school	Policies and implementation measures included in the Public Services Element that will help mitigate the impacts on schools are: new development fair share requirement, development review process, school site plan review, joint use of school and city park facilities, promote higher education opportunities, preschool and day care programs,	No significant impacts after mitigation; however, significant impacts will remain until new programs are enacted and new school facilities offset existing deficiencies.

TABLE 4-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
PUBLIC SERVICES (continued)		
Schools (continued)		
population of 78,688 students. If the average elementary school capacity is 700 students, 78 elementary schools would be needed in the area's five school districts. An average high school capacity of 2,000 students would mean a need for 14 high schools at target buildout.	continuing education, data collection, CEQA review process, service commitments for new development, development plan review, and coordination with school districts.	
Parks and Recreation		
The proposed land use plan designates 1,554 acres of parks and recreation for the estimated 441,280 residents of the Planning Area at its target capacity. In order to provide adequate parkland to the standard population ratio of 2 acres per 400 persons, the plan needs an additional 652 acres of parkland.	The Public Services Element includes the following policies and implementation measures related to parks and recreation: new development fair share requirement, park facilities standards, user impact fee programs, public financing, park acreage standards, park acquisition master plan, public input on park design, parks/flood control joint use, data collection, CEQA review process, service commitments and facilities fees and charges for new development.	No significant impacts after mitigation.
Library Services		
The increase in the Planning Area may not directly have an impact on library services in the area. However, development of residen-	Policies and implementation measures included in the Public Services Element that will help alleviate the impacts on libraries	No significant impacts after mitigation. However, because of existing deficiencies, impacts will remain significant until new and

TABLE 4-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
PUBLIC SERVICES (continued)		
Library Services (continued)		
tial land in the City will increase the demand for city library services. Target buildout of the Planning Area will require approximately 1.1 million book volumes, 2,205 reader seats, a staff of 221, and 353,204 square feet of library space.	are: user impact fee programs, public financing, satellite service need evaluation, library system planning, library service standards, coordination with county library system, construction and expansion of libraries, library outreach services, data collection, CEQA review process, service commitment for new development, capitol improvement plan, development plan review, master facilities plan, and library master plan.	expanded facilities are implemented.
Hospital Services		
Projected population growth in the Planning Area will increase the demand for hospital services.	Policies and implementation measures included in the Public Services Element that will help alleviate the impacts on hospitals are: public financing, satellite service need evaluation, balanced development, coordination of health care programs, data collection, CEQA review process, and new development fees and charges.	No significant impacts after mitigation.

TABLE 4-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
PUBLIC UTILITIES		
Water Services		
An increase in future development will result in a greater demand for water. At target buildout, it is anticipated that the Planning Area will require 135.93 million gallons of water per day. Local groundwater resources comprise 50 percent of the water use, with State Water Project entitlement as the other 50 percent. Groundwater resources are overdrafted which has put a greater demand for the use of State Water entitlement. The State Water Project may cut back water deliveries if drought conditions persist. Aside from water availability, the overlapping of service districts has resulted in inefficiencies in water provision.	The implementation programs of the Public Services Element include: construction, fair share contribution and/or coordination of infrastructure for new development; phasing and master plan for infrastructure; maximum utilization of existing infrastructure; update Capital Improvement Plan; user and impact fee programs; public financing; coordination with street construction; development review process; promote water conservation; water needs study; reclaimed water use; data collection; CEQA review process; service commitment for new development; development plan review; master facilities plan; and facility fees and charges.	Implementation of city programs will minimize the impact on water services, but not eliminate it. However, city requirements to make project approvals contingent upon water availability will reduce impacts on water service in the Palmdale Planning Area to a less than significant level.
Sewer Services		
The proposed plan at target buildout is expected to generate approximately 112.9 million gallons per day of sewage. The existing sewage treatment plants will not be able to accommodate more than the current sewage flow. New facilities would need to be provided to serve develop	The Public Services Element includes the following policies and implementation measures related to sewer services: construction, fair share contribution and/or coordination of infrastructure for new development; phasing and master plan for infrastructure; maximum utilization of existing	The implementation of City programs will reduce impacts to a less than significant level.

TABLE 4-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
PUBLIC UTILITIES (continued)		
Sewer Services (continued)		
ments as they occur. Service boundaries need to be expanded to serve the entire Planning Area.	infrastructure; update Capital Improvement Plan; user and impact fee programs; public financing; retrofit sewers; coordinations with the County Sanitation District; public sewer system requirements; master-planning; development review process; promote water conservation; water needs study; reclaimed water use; data collection; CEQA review process; service commitment for new development; and development plan review.	
Solid Waste Disposal		
Solid waste generation at target buildout is estimated at 3,562 tons per day. Because of recent approvals to expand the facility, the existing Antelope Valley Landfill has adequate capacity to handle the disposal needs at buildout.	The Public Services Element includes the following policies and implementation measures related to solid waste: user impact fee, public financing, master planning, Solid Waste Management Plan, and hazardous waste programs; data collection; CEQA review process; service commitment for new development; and development plan review.	The implementation of City programs will reduce impacts to a less than significant level.

TABLE 4-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
PUBLIC UTILITIES (continued)		
Storm Drainage		
Development under the proposed land use plan will require the construction of storm drainage facilities throughout the Planning Area to mitigate any potential flooding problems. The proposed land use plan will change the requirements for storm drainage facilities in the existing Master Drainage Plan in terms of location and sizes. Storm drainage requirements are expected to change where residential land uses change from low to higher density and from residential uses to commercial or industrial uses. The Circulation Element will provide right-of-ways for construction of new drainage lines serving the Planning Area.	The Public Services Element includes the following policies and implementation measures related to storm drainage: construction, fair share contribution and/or coordination of infrastructure for new development; phasing and master plan for infrastructure; planning and joint use of drainage detention facilities; maximize utilization of infrastructure; Capitol Improvement Program; user and impact fee, public financing; data collection; CEQA review process; development plan review; Master Drainage Plan; and floodplain standards.	Implementation of City programs will reduce impacts to a level of insignificance.
Power		
Power consumption at the target buildout of the proposed land use plan is estimated at 6,731.9 million Kwh per year. Although the Southern California Edison Company receives power from interstate sources, future development will continue to deplete these nonrenewable resources.	The Public Services Element includes the following policies and implementation measures related to electrical power: construction, fair share contribution, coordination and/or maintenance of infrastructure for new development; master plan for infrastructure; regulation of infrastructure placement; installation along streets; data	No significant impacts after mitigation.

TABLE 4-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
PUBLIC UTILITIES (continued)		
Power (continued)		
	collection; CEQA review process; service commitment for new development; development plan review; and public awareness programs.	
Natural Gas		
Target buildout of the Planning Area will result in the consumption of approximately 2,984 million cubic feet of natural gas per month. This will add to the depletion of natural gas resources and the need for additional utility lines and facilities throughout the Planning Area.	The Public Services Element includes the following policies and implementation measures related to natural gas: construction, fair share contribution, coordination and/or maintenance of infrastructure for new development; master plan for infrastructure; regulation of infrastructure placement; installation along streets; data collection; CEQA review process; service commitment for new development; development plan review; and public awareness programs.	No significant impacts after mitigation.
Telephone		
Target buildout of the Planning Area will require the provision of telephone service to serve all developments. New lines, facilities, and employees may need to be provided to ensure this service.	The Public Services Element includes the following policies and implementation measures related to natural gas: construction, fair share contribution, coordination and/or maintenance of infrastructure for new development; master plan for infrastructure; regulation of infrastructure placement; installation along streets;	No significant impacts after mitigation.

TABLE 4-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
PUBLIC UTILITIES (continued)		
Telephone (continued)		
	data collection; CEQA review process; service commitment for new development; development plan review; and public awareness programs.	
Cable		
The demand for cable television will increase as development occurs. New lines and expanded facilities will have to be provided throughout the Planning Area.	The Public Services Element includes the following policies and implementation measures related to natural gas: construction, fair share contribution, coordination and/or maintenance of infrastructure for new development; master plan for infrastructure; regulation of infrastructure placement; installation along streets; data collection; CEQA review process; service commitment for new development; development plan review; and public awareness programs.	No significant impacts after mitigation.
RISK OF UPSET		
Earthquakes		
Additional emergency planning for the City will be needed as part of the new Planning Area is within an Alquist-Priolo special study zone. Development under	The Safety Element establishes standards and implementation programs to mitigate hazards associated with earthquakes that include: public information and education programs, City	The existence of the San Andreas Fault within the Planning Area will continue to present earthquake hazards to residents of Palmdale and neighboring communities. The potential for

TABLE 4-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
RISK OF UPSET (continued)		
Earthquakes (continued)		
the proposed land use plan will result in exposure of new residents to earthquake hazards in the Planning Area. Human injury and property damage will be extensive during a major earthquake.	emergency preparedness plans, CEQA review, public records of hazards, regional coordination, floodplain development standards, land use planning inventory of hazardous buildings, geologic investigation and construction standards for new development, special study zones, mutual aid, emergency funds, and enforcement of building and seismic codes.	harm and damage from a major earthquake on the fault cannot be reduced to a level of insignificance.
Aircraft Accident		
The risks associated with the continued operation of the USAF Plant 42 and the proposed regional airport will increase with the expansion of Palmdale's Planning Area due to increased density in the area. The proposed land use plan will have a significant impact on risk to residents due to higher intensity development. Land uses in the aircraft crash zones will be exposed to the risks of aircraft accidents.	The Safety Element includes the following measures to reduce risks related to aircraft accidents: new development compliance with FAA regulations and Accident Potential Zones; potential redevelopment of incompatible uses in overflight areas; review new projects for conformance with Joint Land Use Committee (JLUC) policies.	With implementation of the mitigation measures, the impact of aircraft accident hazards would be reduced to a less than significant level.
Hazardous Materials		
Industrial development under the proposed land use plan will increase the potential for hazardous materials use and	The Safety Element includes the following measures to reduce risks related to hazardous materials: coordination with Los Angeles	No significant impacts after mitigation.

TABLE 4-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
RISK OF UPSET (continued)		
Hazardous Materials (continued)		
hazardous waste generation. The risks associated with the accidental release of hazardous material/wastes or contamination will be proportional to the amount of use in the Planning Area.	County Fire Department, identification of hazardous waste generators or contaminated sites, clean-up of sites, land use restrictions, routing of hazardous materials transportation, compliance with state legislation and city ordinance for all hazardous waste facilities, Hazardous Waste Management Plan, and hazardous waste disposal programs.	
NOISE		
Noise impacts will be continuous and incremental as Palmdale develops. Vehicular traffic and noise will increase due to population growth. Commercial flights at the Palmdale Regional Airport will generate noise and railroad traffic and industrial uses will also generate noise. Development along highways and railroad corridors will expose more persons to noise.	The Noise Element includes the following measures to reduce noise impacts: acoustical analysis reports to determine land use compatibility, adoption of a noise ordinance, review new development for conformance with the Joint Land Use Committee (JLUC) policies, support Airport Land Use Commission (ALUC) planning, coordination with agencies and developers to reduce noise impacts to sensitive land uses, maintain map of noise sources and receptors, and use of acoustical design during construction.	Implementation of mitigation measures would reduce noise impacts to a level less than significant for most areas in the City. However, existing and proposed sensitive land uses located near the airport, railroad, or major roadways may be exposed to significant noise impacts.

TABLE 4-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
LIGHT		
Implementation of the proposed land use plan will allow more intensive development than the existing land use plan and may result in light and glare impacts.	The proposed Community Design Element will contain measures which will reduce light impacts caused by new construction. Mitigation measures to reduce glare and artificial light impacts will be required of individual projects.	No significant impacts after mitigation.
AESTHETICS		
New development in Palmdale and in the Planning Area has the potential to alter existing viewsheds and the views from existing scenic highways. Community design will also be affected by future development. Urban land uses will expand to new areas of the City and will extend into the foothills and mountains, replacing the vacant desert land and altering existing rural or small town settings.	The proposed Community Design Element will reduce the negative aesthetic impacts associated with urbanization. Implementation programs could include the use of landscaping standards, specific plans, hillside development standards, scenic highways, native desert vegetation ordinance, and site plan review. These programs will help protect the aesthetic quality of the natural environment and create a community identity for the City.	No significant adverse impacts after mitigation.
CULTURAL RESOURCES		
Development of the Planning Area will mean that more areas that are currently low density and likely to contain cultural resources will be disturbed. A higher	Mitigation measures needed to preserve the area's cultural resources include awareness programs and predevelopment studies, surveys, and preservation	Full implementation of mitigation measures will reduce impacts of development on the area's cultural resources to a less than significant level.

TABLE 4-1 (continued)

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
CULTURAL RESOURCES (continued)		
development density will increase development of these areas and increase impacts to cultural resources. As buildout of the General Plan proceeds, more cultural resources will be lost due to grading and the proximity of urban development.	or salvage plans. New development shall be subject to appropriate mitigation.	

4.2 ENVIRONMENTAL IMPACTS

4.2.1 GEOLOGIC HAZARDS

Environmental Impacts

The Palmdale Planning Area covers approximately 174 square miles. The area is traversed by the San Andreas Fault in a northwest to southeast direction. The proposed General Plan features an expanded land use plan for Palmdale. Development according to this plan will impact, and will be impacted by, the area's geology.

Slopes

The proposed land use plan allows more intensive development near the city center and less intensive development in areas farther from the city center. Development on steeper slopes is of particular concern due to infiltration, the possibility of landslides, high erosion potential, moderately to highly expansive soils, and other problems of ground instability. The Planning Area contains steep slopes and eroded hillsides of sandstone, Pelona schist, and basalt on its southern and southwestern edge. Basalt is susceptible to pervasive fracturing which weakens slopes. These slopes are apt to fail if disturbed by heavy rains or grading. Clays become slippery when wet and are likely to slide against underlying rock if water infiltrates the slope. Landslides including topples, avalanches, and rock and debris slides are common on the southern edge of the Planning Area. Rock failures are abundant in the San Gabriel/Sierra Pelona Mountains where large outcrops of crystalline and massive sandstone rocks occur on steep slopes throughout the entire area. Rock falls and slides will occur in well jointed intact rocks throughout the hillside areas, while rock avalanches will result from failure of the steep, unstable slopes, especially common on the northern slope of the mountain range. Block glides, earth flows, and debris flows are common to slopes of undifferentiated igneous and metamorporphic rock on the northeastern side of the San Gabriel Mountains.

Under current conditions, the slopes of the Sierra Pelona are somewhat stable; however, alterations from grading could significantly affect the local slope stability. According to the Safety Element, those areas with 10 to 25 percent slope will typically require special hillside construction techniques to achieve substantial foundation

support and stable soil conditions. Areas with slopes greater than 25 percent are subject to instability and erosion and will require specific engineering standards to ensure that geologic risks are minimized. Increasing urbanization on hillsides exposes the community to possible landslides and rockslides which could result in human injury and property damage.

According to the proposed land use plan, the areas with slopes greater than 25 percent, as shown in Exhibit 3-2, are designated for specific plan or low density residential uses of up to one dwelling unit per acre. Although this is a low intensity land use designation, development in these areas will have a significant impact by exposing Palmdale residents to geologic hazards. Increasing urbanization on the hillsides could expose the community to possible landslides and rockslides which may result in human injury and property damage. Construction methods must take these constraints into consideration at the planning stages and during the design of the structural foundation. Extensive grading will be required to create a developable surface on hillside areas. However, grading is also a form of land disturbance which may promote land failure. To ensure public safety in hillside developments, and to maintain the visual, open space, and recreational amenities provided by hillside areas, the City recently adopted a hillside management ordinance.

Soil Expansion

The areas shown in Exhibit 3-3, including the area southwest of the intersection of Sierra Highway and the California Aqueduct, have a high soil expansion potential. Highly expansive soils can cause land slippage and structural damage to foundations. When soil shrinks and swells disproportionately, it can pull, tear, and create cracks in foundations. This area has been designated for low-density residential uses. Foundations must be designed to withstand possible soil expansion. Detailed investigations may be necessary for areas with moderate to high expansion potentials. Development on expansive soils requires special grading and construction techniques which increase development costs. If not mitigated, expansive soil will have a significant impact on development.

Soil Erosion

Soils are susceptible to wind and water erosion where erodible soils are exposed during or after grading on steep slopes with inadequate vegetative cover, or where inadequate grading or drainage design occurs. Surface improvements such as paved roads, buildings, landscaping, and terracing, in addition to properly designed drainage facilities, will decrease the potential of erosion. Once covered, soil is no longer exposed to the elements. A high rate of erosion by wind or water can impact development. Profound soil erosion can undermine the structural stability of manmade or natural slopes, as well as the stability of building foundations. Without the proper drainage facilities, such as debris basins and catch basins, heavy erosion can interfere with and damage street improvements and storm drains, resulting in downstream erosion and siltation. In developed areas, where highly erosive soils remain exposed, landscaping and other measures, including control of drainage flows, terracing, and retaining walls, should be provided to slow the overland flow of water and to protect the soils from wind. Erosion control is especially needed on hillsides, where development-influenced failures may be caused by the malfunction of the structures designed to manage runoff.

Soil Infiltration

In areas where soil infiltration is low, surface runoff may pond. Continual exposure to water will interfere with the structural integrity of building foundations. This will have a significant impact on developments. Thus, it is necessary to provide adequate drainage in areas of very slow and slow infiltration rates as indicated by Exhibit 3-5. Facility improvements must be designed to direct drainage away from structures, to provide adequate detention/retention basin capacity, and to transport runoff offsite to downstream regional facilities.

Sewer systems are needed in these areas to prevent hazards associated with effluent discharge. Also, drywell disposal of nuisance water may be inefficient in these areas and alternative storm water disposal methods need to be provided. Areas of severe septic tank limitations include portions of the central city and large portions of the southern and western Planning Area located south of the California Aqueduct.

Soils with a permeability of more than 1 inch per hour, excessive or good drainage, no flood hazards, and a permanent water table more than 6 feet deep are considered to have slight limitations for the use of septic tanks.

Moderate limitations are characterized by soils with a permeability of 1.0 to 0.63 inch per hour or less, somewhat poor drainage, a flooding length of less than 48 hours, and a permanent water table of from 4 to 6 feet in depth. Severe limitations for septic tanks are due to a permeability of 0.63 inch per hour or less, very poor drainage, a chance of flooding 1 year in 5 years, and a water table less than 4 feet deep. Sewer systems are needed in these areas to reduce the hazards to residents and the environment. Drywell disposal of nuisance water may be inefficient in these areas and alternative disposal methods need to be provided.

The City's current policy is to require connection to a public sewer for all new single-family development on lots of 1 acre or less, all multi-family development, and all commercial or industrial projects. Where septic systems are permitted, they are governed by regulation of the State Water Quality Control Board, Lahonton Region.

Settlement

Settlement can occur when loosely consolidated materials and fills collapse under the weight of a structure. Settlement of soils within a majority of the Planning Area is low-moderate (0.1-0.5 inches). Only a small section at the very north of the Planning Area, between 30th and 70th Streets East, exhibits moderate settlement (0.5-0.9 inches). Settlement of up to a half inch is considered normal and expected in many structures. However, settlement greater than 1 inch can cause structural damage to building foundations. The risk of settlement can be reduced to a level of insignificance by analysis of project-specific soil studies and implementation of mitigation measures which include compaction of soil during construction and the removal and replacement of suspicious earth materials. Subsidence may adversely impact development, as well as cause damage to underground utility lines.

If the shrink/swell process occurs unevenly beneath a structure, the foundation may crack or break. Special grading and construction techniques can be applied in areas of differential settlement. Heavy loading of loosely consolidated soils and fills or improper compaction of fills can cause localized settlement of structures to the ground surface.

Subsidence

Subsidence is generally related to the regional withdrawal of fluids from geologic formations. When oil or water are pumped from deep soils or bedrock, the formation often consolidates, partially filling the emptied pore spaces. This phenomenon generally occurs at too great a depth to be affected by compaction of surface soils. Regional subsidence due to mining of groundwater needs to be considered in the northern part of the City and perhaps elsewhere. However, no data on subsidence is available for a large portion of the western Planning Area and data on the northern part of the City are not current.

Adjacent land tracts in the Planning Area may have very different underlying geologic formation due to the deposition history of the Antelope Valley. Accordingly, it is difficult to map out areas of potential fissuring (Dr. Roy Shlemon). The nature and suitability for development can only be determined through site specific exploration. In many cases, subsidence, hydrocompaction, and near surface drying of site soils operate at once. Thus, there is a need to establish project specific mitigation measures on a project-by-project basis.

Hydrocompaction

Hydrocompaction occurs as a result of the addition of underground fluids. Heavy irrigation causes the soil to consolidate under its own weight. The volume of soil is reduced and the soil collapses. Differential settlements occur, causing structural damage to aboveground structures. Topsoil weight can also cause the compaction of subsurface soils, resulting in settlement. This phenomenon exists in the area north of the mountain ranges. It is important to complete a geotechnical investigation prior to development in order to identify potential ground instability.

The rapid expansion of development onto alluvial fans, including sites near Lancaster, Palmdale, Littlerock, and Leona Valley, precipitates concern for potential damage from hydrocompaction. Numerous examples from other jurisdictions in the southwestern United States demonstrate that by not adequately considering collapsible soils, widespread areas of development can be adversely affected. Albuquerque, New Mexico, which has an arid environment similar to that of the Lancaster/Palmdale area, is suffering widely scattered, rapid settlements from

hydrocompaction, causing extensive damage to relatively new developments. Development within the Antelope Valley is vulnerable to the same problem.

Complete elimination of geologic hazards is not possible due to the expense and the potential damage to the environment from massive alteration of the terrain. Danger can be avoided by regulating or restricting construction in areas with soil stability problems. It can also be reduced to some extent by grading and other engineering methods which remedy soil instability and provide a stable foundation for building construction. Differences in soil stability can be handled by engineering methods to offset any potential damage to the foundation which would reduce the structural strength of buildings.

Earthquakes and Ground Rupture

Fault Rupture Hazard

Surface rupture poses the most difficult seismic problem from an engineering standpoint, because it is economically impractical to design a foundation and structure to withstand the displacements of even fractions of a foot. Such offsets of the underlying strata can cause displacement in the foundation, causing buildings to crack and split and causing utility lines to break. From both economic and safety standpoints, it is best to avoid areas of high fault rupture potential.

Following the severe fault-related damage sustained during the 1972 San Fernando Earthquake, special criteria were developed by the California Division Of Mines and Geology to assess the risk of ground rupture. The criteria use geological evidence to support or disprove prior surface displacement within Holocene time (the last 10,000 years). In addition to this evidence, youthful structural distortion of near-surface Holocene deposits are also considered strong evidence for inferring a high risk of fault rupture. Distinct landforms suggesting fault movement within the last 10,000 years include sag ponds, offset drainages, linear valleys, and springs. Thus, active faults are defined as having surface displacement within Holocene time (CDMG).

Potentially active faults are generally faults which have been poorly or inadequately studied, but which appear to have had activity in the last 1.6 million years. As such, their recurrence rates may be tens of thousands of

years long, but they are still capable of producing moderate to large earthquakes within the design life of many critical or long-lifetime structures. Faults which do not show evidence of displacement within Quaternary time are considered inactive and unlikely to produce moderate to large earthquakes or surface displacements within the design lifetime of man-made structures.

The following are guidelines for interpreting and classifying the activity/inactivity of faults for planning purposes:

- **Active**

  -- The fault is within an area zoned as an Alquist-Priolo Special Studies Zone (APSSZ)

  -- The fault is suspected (or proven) to displace Holocene age alluvium.

  -- A fault segment lies interposed between two APSSZ faults, adjoins and appears to extend an APSSZ, or a distinct fault segment includes an APSSZ.

  -- An adjacent potentially active fault parallels an active fault, the fault overlaps or intersects an existing special studies area, and the fault displays the same tectonic character (e.g. geometry, slip mechanism, etc.).

  -- The fault is not well studied, but is covered by one of the above criteria.

- **Potentially Active**

  Proven or probable late Quaternary (10,000 to 1.6 million years ago) movement. Potentially active faults require special studies, but not setbacks.

The Alquist-Priolo Special Studies Zone Act (Public Resources Code Section 2621 et seq.), represents the current state-mandated approach to controlling development in active fault zones. Essentially, the APSSZ Act contains two requirements: (1) it prohibits the location of structures for "human occupancy" across the trace of active faults; and (2) it establishes special studies zones. The Special Studies Zones are delineated and defined by the State Geologists, and within the assigned zones, cities and counties must establish special procedures for reviewing applications for new building permits. The City of Palmdale implements the Alquist-Priolo Special Studies Act by means of the development review process in which every proposed development within the Special Studies Zone is required to prepare a detailed geotechnical report and fault rupture survey. These studies are

then reviewed by the City Geologist and special conditions (i.e., structural setbacks and/or special engineered foundations) are placed on projects as deemed necessary by the City Geologist.

The Planning Area is situated within a seismically active region; thus, development standards must be higher than required elsewhere. For example, the Alquist-Priolo Special Studies Zone Act specifies a 50-foot setback from active fault lines; the area within 50 feet of an active fault is presumed to be underlain by active branches, unless proven otherwise. However, it is prudent in the case of the San Andreas Fault to specify a greater distance or require detailed geologic investigations. Maximum displacement along the main trace of the local San Andreas in the Planning Area is estimated to be approximately 15 feet (±5 feet) during a large event. Potential for fault rupture along the San Andreas Fault is considered very high. The average recurrence interval is estimated to be 145 years. However, some recent studies indicate 170 years, with a range from 22 years to several hundred years. The last major earthquake occurred on this segment in 1857, thus, the recurrence of an earthquake in this area within the lifetime of new construction is possible. Immense structural damage and loss of life could occur in buildings less than a mile (5,280 feet) from the fault. In order to minimize potential disaster, open space, low-density and rural land uses should be encouraged within the areas adjacent to the fault.

The risk to residents in the Planning Area due to earthquakes is considered significant.

Groundshaking

The potential for significant impact due to groundshaking in the Palmdale Planning Area is considered to be high. Groundshaking is often greater on young, loose sedimentary deposits. The Palmdale Planning Area lies atop both young bedrock (Holocene) and soils which are primarily sandy varying from silty to coarse grained soils that are for the most part, uncemented. The soils include younger alluvium with small (up to 0.5 inch) gravel at shallower depths and clay and coarse sand (up to 0.75 inch) at deeper elevations.

The location of the major fault trace and active splays within the San Andreas Fault Zone are shown in Exhibit 3-9. Expected seismic shaking zones for an earthquake with a magnitude of 8.0 or more are also delineated. Zone 1 areas are most likely to experience severe accelerations greater than 0.5 gravity; Zone 2, accelerations from 0.5 to 0.4 gravity; and Zone 3, accelerations from 0.28 to 0.4 gravity. Estimated Modified Mercalli

intensities from a locally-occurring earthquake will be VII to IX. A VII Mercalli intensity will cause slight to moderate damage to well-built ordinary structures, it will be difficult to stand, and water may become turbid with mud. A IX Mercalli intensity will cause the partial collapse of most structures, general panic will ensue, serious damage to reservoirs and underground pipes will occur, and there will be visible cracks on the ground.

Aside from the immediate impact of groundshaking and ground surface rupture, earthquake hazards include the fissuring or cracking of bedrock, landslides, intense ground breakage, and ground settlement. Structures most likely to be affected by these secondary hazards are those that are old or near earthquake faults. Dams along earthquake faults in areas of intense ground movement may be subject to failure and may cause flooding of the surrounding area. Critical damage may also occur to structures that provide emergency services (hospitals, fire stations, schools, emergency shelters). Roads and utility lines for water, gas, power, sewer, and storm drainage may be disjointed by seismic shaking and associated secondary hazards and services may be cut off. These structures require special attention in the public safety programs of the City. Current Zone 4 Uniform Building Code requirements for new construction can help to reduce the impact of groundshaking.

In case of a major earthquake on the San Andreas Fault, damage to the following structures is expected:

1. Lake Palmdale and Little Rock reservoirs could sustain surface rupture and cause area flooding. Exhibit 3-16 delineates possible inundation areas for both reservoirs.

2. Palmdale Hospital Medical Center could lose 56 percent of its bed capacity (69 beds out of 123 beds) due to structural damage.

3. Rail lines crossing the fault may be damaged between Palmdale and Interstate 5 and to the east as far as Cajon Pass (Interstate 15).

4. The California Aqueduct may rupture, causing flooding of the surrounding area and loss of water supply to the region (see Exhibit 3-17).

5. Telephone lines, sewer pipes, and water lines may be truncated or damaged.

6. High voltage lines (136 kV and greater) may be damaged, along with the Vincent substation, causing power failure in the area. Exhibit 3-48 shows the relative location of these lines.

7. Thirty-inch gas lines running along Avenue S may be ruptured as shown in Exhibit 3-48.

8. Highways that may be temporarily closed include:

- Antelope Valley Freeway from Lancaster to Sierra Highway
- Sierra Highway between Pearblossom Highway and Avenue S
- Pearblossom Highway from Sierra Highway to Route 138
- Route 138 from Littlerock to San Bernardino County Line
- Elizabeth Lake Road
- Bouquet Canyon Road

9. Other critical structures used for emergency services (schools, congregate care facilities, shelters) may also be subject to major damage during an earthquake.

10. Damage may occur to residential and other well-built structures close to the fault due to ground rupture, intense groundshaking, and slope failure.

Hillside Stability and Liquefaction

Another seismic-related hazard is liquefaction. Liquefaction is the sudden and temporary transformation of loose, water-saturated soil to a liquid mass when subjected to shock or stress. Liquefaction is a potential hazard if the groundwater table lies within 30 feet of the surface and the earth material is granular and unconsolidated. Groundwater depth in Palmdale is estimated to be approximately 50 to 400 feet below surface and young, loosely consolidated alluvium underlies most of the Planning Area. Because groundwater occurs at depths greater than 50 feet, the risks due to liquefaction throughout the majority of the Planning Area are considered insignificant.

Where the San Andreas Fault passes through the Anaverde and Leona valleys, the fault acts as a dam to local groundwater. In these areas, groundwater may be as shallow as 30 feet from the surface within the 100-foot wide area along the rift. Therefore, risks of damage due to liquefaction along the rift zone are significant.

Seismically-induced settlement will occur primarily within younger alluvial soils found within the major drainage courses. It is likely that these same soils are subject to hydroconsolidation. Older alluvium (Pleistocene) and bedrock have experienced multiple major earthquakes since deposition. It is assumed that most seismically induced settlement in the older soils and bedrock has already occurred. However, additional settlement could occur due to changes in environmental condition, including grading and the additional weight from fill or structures.

Lands adjacent to fault zones are exposed to geologic hazards as a result of repeated fault movement. Earthquakes give rise to broken rocks, ground surface fracture, and clay gouge. Broken subsurface rocks may not be readily apparent but the ground would no longer have its original cohesive and shear strength to carry building loads. Surface cracks and dips increase the potential for erosion and landslides. Clay gouge occurs as a result of faulting and may cause differential ground settlement. Repeated ground movement from earthquake and grading will cause more settlement in areas with granular soils than in other places. Liquefaction potential is determined based upon soil type and distance to groundwater.

Seismically-induced landslides could possibly occur in the steep slopes of the Sierra Pelona Mountain area, and may range from large slide masses to rock falls, surficial soil slides, and rolling boulders.

Tsunamis/Seiches

The effects of tsunamis and seiches on development is discussed in Risk of Upset, Section 4.2.12.1, along with dam inundation and aqueduct failure.

Mitigation Measures

The proposed General Plan contains goals, policies, and implementation programs that were established to mitigate the impacts of future development. These guidelines and actions will be implemented by the City to address citywide concerns. Although part of the proposed project, these goals, policies, and programs will serve as mitigation measures for the environmental impacts of development under the proposed General Plan.

The following policies and implementation programs are found in the City's Safety Element. These programs and policies which would reduce geologic hazards to persons and development.

The implementation programs are divided into three categories: Public Safety Programs; Public Safety Standards; and Land Use Planning. Those implementation measures that would reduce the impacts of geologic hazards are described below. Please see the Safety Element for a more detailed description of programs and policies.

A. Public Safety Programs. These programs focus on the education of the public concerning the proper procedures for avoiding hazards, the need for increased emergency preparedness, and prevention or mitigation of existing and potential hazards. The City's policy is to give first priority to saving human lives, and to reduce property damage second. The City also seeks to eliminate a hazard, reduce the risks if the hazard cannot be eliminated or avoided, but most importantly, to plan for potential disasters. Criteria for the allocation of public funds for various safety programs will determine priorities and facilitate implementation. Both private and public funds and resources will be solicited to implement the programs.

A1. Existing Hazardous Buildings. The City will develop an inventory of existing hazardous buildings (structures highly susceptible to earthquakes, and other hazards). Existing structures may be required to be improved up to current safety code before any change of occupancy or use is allowed.

A2. Relocation/Rehabilitation Program. The City will study the need to develop a relocation/demolition/rehabilitation program to remove or reduce threats to life and safety associated with known hazardous structures.

A3. Geologic Investigation. The city engineering geologist will evaluate the need for a geologic investigation for proposed development within areas of potential geologic hazards. Geologic investigations will be required to include assessment of soil stability, susceptibility to geologic hazards in the area (including distance to nearest fault), and any other conditions which, as determined by the Engineering Department, may affect structural foundations.

A4. Construction and Land Use Standards. The City will review all new development for compliance with construction and land use standards regarding earthquake and other hazards. Strict enforcement of building codes and development standards shall be maintained with modifications granted only if no risks to life and property are involved.

A5. Special Study Zones. The City has established special study zones in known hazardous areas (earthquake fault zones, flood hazard areas, and areas of steep slopes) in order to identify the need for in-depth

studies before allowing development within these areas. The construction of high density uses and critical structures on hazardous sites will be limited as required by California state law and City ordinances.

A6. **Volunteers**. The City will offer training programs for people interested in volunteering during emergency preparedness/response activities so that during major disasters, these volunteers are organized and prepared. This program will allow the City to reach out to residents and inform them of ways they can prepare and help others during disasters. The program could also provide additional manpower to City and County agencies in abating or responding to an emergency.

A7. **Emergency Management**. Public officials will be encouraged to attend seminars dealing with emergency management.

A8. **Public Information and Education** The City will develop programs for public information and the education of residents and businesses on earthquake safety, flood hazards, dam inundation, geologic hazards, and other issues for which prevention measures may decrease the potential for personal injury and property damage.

A9. **City Emergency Preparedness Plan**. The City has adopted an Emergency Preparedness Plan which identifies emergency responses and recovery operations for disaster occurrences affecting the City. The City will update these procedures at least every five years to accommodate growth and changing situations and to reinform responsible agencies of their specific roles. Resource listings within the City Emergency Preparedness Plan will be updated annually. The City's emergency plan includes disaster recovery programs and reconstruction standards and measures as well as evacuation procedures and routes; annual emergency drills; review of the City's monitoring and warning system; and resource listings.

A10. **Emergency Shelters**. The City's Emergency Preparedness Coordinator has organized an emergency response plan as required by the State Office of Emergency Services (OES). This multi-hazard emergency plan addresses the City's preparedness response, recovery, and mitigation in the event of an emergency.

The Emergency Preparedness Coordinator will also locate suitable facilities for shelter and make arrangements with the owners of these facilities for use in the event of a disaster.

A11. **Mutual Aid**. The City will continue its mutual aid agreements with other agencies, including various county agencies, the State Office of Emergency Services, and the Federal Emergency Management Agency for responses to disasters that involve the region, state, or nation. City services are also available for mutual aid to neighboring jurisdictions.

A12. **Emergency Funds**. The City will apply for programs and funds from state, federal, and regional agencies to help provide relocation assistance, emergency management, relief goods, post-disaster reconstruction programs, and emergency housing when needed.

A18. **Development Review**. Through the review of site plans, conditional use permits, and other development applications, the City will enforce the standards for floodplain development, seismic safety, and others.

A21. **Zoning Ordinance/Land Use Plan**. The City will revise and update its zoning ordinance to incorporate implementation measures in accordance with this element (Safety Element) of the General Plan.

A22. **Building and Seismic Safety Codes**. The City will enforce its building and seismic safety codes which provide minimum standards for the construction of habitable structures, and ensure the structural stability and safety of all developments. The Building and Safety Department reviews all construction plans for compliance with codes prior to development. The City's Code Enforcement section responds to citizens concerns regarding unsafe structures, and requires abatement of code violations.

A23. **CEQA**. The City will implement CEQA requirements for new development and for capital improvement projects. CEQA requires evaluation of potential impacts to public safety from seismic, flood, fire, risk of upset (spills, explosions, etc.), and other factors.

A26. Public Records of Hazards. The City will provide data on known hazards in the Planning Area for public review to increase community awareness and personal preparedness for residents and businesses.

B. Public Safety Standards. The City will enforce public safety standards in reviewing development proposals and in land use planning. These standards protect future developments from natural and man-made hazards and provide benchmarks for achieving the goals and objectives.

B1. Standards for Construction and Development. Construction and development standards contained in the Zoning and Building codes include:

- Engineered construction must withstand secondary rupture in structures near fault zones.
- Emergency facilities and sites with explosives and toxic materials must adhere to more restrictive seismic safety construction.
- Emergency facilities shall be set back from known hazard areas (earthquake fault zones, aircraft crash zones, and flood plains).
- Critical use structures must conduct geologic/seismic hazards studies before construction, and implement appropriate construction techniques.

B2. Hillside Development Standards. The City will enforce hillside development standards to prevent landslide and erosion hazards and to preserve natural grades and scenic views, contained in the recently adopted Hillside Management Ordinance. The ordinance addresses the maximum angle and height of manufactured slopes.

C. Land Use Planning. The implementation of the proposed Land Use Plan will also help mitigate geologic hazards in the Planning Area. The policies and programs of the draft Land Use Element are described in Section 4.2.6 of this EIR. According to these policies, development shall be limited in hazard areas. Along earthquake fault zones and floodplains, development shall be minimized to low intensity uses, such as recreation, agriculture, rural residential, and open space.

Other specific policies of the Safety Element would also mitigate the impacts of geologic hazards on the Palmdale Planning Area. These policies include:

- **Policy S1.1.1**. Provide copies of geotechnical reports for projects located within the Alquist-Priolo Special Studies Zone, as shown on the Overlay Map, to the State Division of Mines and Geology.

- **Policy S1.1.2**. Assist developers in obtaining necessary technical and policy information regarding seismic hazards.

- **Policy S1.1.3**. Require geotechnical studies, to be reviewed and approved by the City's geologist, for development proposals in areas where geotechnical hazards may be present, and implement the recommendations of those reports as deemed necessary by the City.

- **Policy S1.1.4**. Require appropriate structural setbacks from active fault rupture traces in accordance with Alquist-Priolo standards and as required by the City, based on geotechnical analysis.

- **Policy S1.1.5**. Require structural setbacks or special foundations for structures within potentially active fault zones as determined by the City, based on geotechnical analysis.

- **Policy S1.1.6**. Require special foundations within inactive fault zones if determined necessary by the City.

- **Policy S1.1.7**. Restrict location of utility lines, whether above or below ground, within 50 feet of a fault trace, except to cross the fault trace. Utility lines crossing fault traces should be specifically designed to withstand the expected movement of the earth in these locations. Utility lines as defined here would include, but not be limited to, electricity, water, natural gas, and sewer.

- **Policy S1.1.8**. Require that all structures should meet or exceed state required earthquake resistant design standards.

- **Policy S1.1.9**. Review development proposals located in or immediately adjacent to areas of soil instability, liquefaction areas, and steep slopes to determine if a significant constraint exists and to determine appropriate land use or hazard mitigation methods, and require compliance with any such measures identified.

- **Policy S1.1.10**. Develop and adopt hillside grading standards to minimize the hazards of erosion and slope failure.

- **Policy S3.1.1**. Ensure that there is no reduction in effectiveness of emergency services as a result of growth permitted through the implementation of this plan.

- **Policy S3.1.2**. Develop and implement a plan in cooperation with hospitals, schools, major businesses, utilities, the Red Cross, churches, and other service providers to work together and train in preparation for a coordinated response during a major event.

- **Policy S3.1.3**. Periodically, but not less than annually, review emergency service equipment and shelters to ensure that they are adequate to meet the needs of changing land uses and development types.

- **Policy S3.1.6**. Consider the City's daytime and permanent population in determining emergency service needs.

- **Policy S3.1.7**. Require all residents to maintain visible and clearly legible signs and street numbers to shorten the response time of emergency personnel.

- **Policy S3.1.8**. Require city staff to undergo regular disaster preparedness training.

- **Policy S3.1.9**. Maintain and implement the City's adopted Disaster Preparedness Plan.

- **Objective S4.2**. Support the development and continued updating of public education programs on health and safety.

- **Policy S4.2.1**. Prepare and disseminate educational information to residents and businesses on preparing for response to hazards of the area, including major earthquake, floods, etc.

- **Policy S4.2.2**. Encourage and assist the school districts in teaching children to respond appropriately in an emergency, especially to situations unique to a desert environment. Such training should be repeated regularly.

- **Policy S4.2.3**. Promote the use of water filtration systems at point-of-delivery for acceptable water quality in emergency situations.

In addition, policies contained in the Environmental Resources Element would reduce the impacts of geologic hazards. These include policies ER3.1.1 through ER3.1.5 regarding a systematic approach to development in hillside areas.

The full implementation of the programs and policies noted above, including the implementation of mitigation measures identified for individual development projects during development and CEQA review, would reduce significant adverse geological impacts relating to slope stability, soil expansion, soil erosion, soil infiltration, soil settlement, subsidence, and hydrocompaction to a less than significant level. However, due to the proximity of

the San Andreas and other active and potentially active faults to the Planning Area, earthquakes represent a greater risk to the residents of Palmdale. The implementation of the recommended mitigation measures and city programs will reduce the impact of seismic hazards, but not eliminate it. Even with implementation of the measures, risks to residents of Palmdale caused by the presence of earthquake hazards cannot be reduced to a less than significant level.

4.2.2 AIR QUALITY

Environmental Impacts

Under the proposed land use plan, the population in the Palmdale Planning Area is expected to increase to 441,280 residents at buildout. This represents an increase of 355,545 residents over the estimated 1990 population for the Planning Area (85,735).

Emissions associated with this growth will fall into two major categories: short-term emissions associated with construction equipment, architectural coatings, and earth moving operations, and long term emissions associated with traffic, home heating, use of home consumer products, increased operation of service facilities such as gasoline stations, dry cleaners, restaurants, and the Palmdale Regional Airport.

The major source of potential pollution is the increased traffic associated with growth. The automobile is the primary source of many of the region's criteria pollutants. The City's Circulation Element has incorporate transportation demand management (TDM) measures in order to reduce vehicle trips and air quality emissions. Current measures include: a comprehensive bus transit system; park and ride lots with express bus service to the San Fernando Valley and the Los Angeles Central Business District; and use of incentives to promote car/vanpooling. In the past, the City has provided and required developers to provide several park-and-ride sites throughout the City. In the future, the City will formulate a comprehensive park-and-ride plan to coordinate location of these facilities with public transit routes.

Other TDM measures will include preparation and adoption of a TDM Ordinance, in compliance with the County's Congestion Management Plan. Various TDM measures which might be addressed in this ordinance include:

- Require that if employers subsidize parking they also subsidize transit.
- Proactive work place-based promotion and marketing of commute alternatives, employee rideshare coordinators, and transportation management organizations.
- Financial subsidy for transit riders and carpoolers including far subsidies and/or transportation allowance.
- Employee-paid parking charges.
- Provision of midday transportation and guaranteed-ride-home for ridesharers.
- Walk-accessible transit services.
- Preferential treatments for ridesharing, including parking and high occupancy vehicle facilities.
- Modified work weeks.
- Flexible work hours.
- Work at home and satellite work centers.

With these measures in place, only 11 roadway segments modeled in the Circulation Element are expected to operate at LOS D or below at buildout of the Planning Area.

As stated, the increase in nitrogen oxide (NOx) and reactive organic compounds (ROC) emission sources within the desert area will contribute to production of ozone within the Southeast Desert Air Basin (SEDAB), which is mainly a receptor area at present. However, the full impact of this pollution probably will not occur within the Palmdale area, but in the northern areas of Antelope Valley, since ozone is transported with windflow. In addition, implementation of the South Coast Air Basin Air Quality Management Plan (AQMP) is expected to reduce the levels of ozone transported to the City of Palmdale and the remainder of the valley from other areas of Los Angeles County.

In addition to ozone precursor emissions (NOx and ROC), automobiles are the primary source of carbon monoxide (CO). CO is typically a problem in highly urbanized areas, and the potential exists for carbon monoxide hot spots to develop as traffic reaches severe congestion levels. Peak levels of carbon monoxide in Lancaster are currently 65 percent of the state 1-hour standard, while 8-hour CO maximums at the Lancaster station are at approximately 80 percent of the state standard. Carbon monoxide is emitted almost entirely from automobiles and is a very localized pollutant. Peak areas of impact occur very near the source as the pollutant dissipates quickly. Highest levels occur during cold weather, peaking when cars are idling.

Because the AQMP for SEDAB was prepared in 1979 and has never been updated, there has been no recent analysis of stationary source emissions and localized pollutant levels. However, the Los Angeles County portion of SEDAB is within the jurisdiction of the South Coast Air Quality Management District (SCAQMD) and rules adopted for the South Coast Air Basin (basin) apply in Palmdale. Therefore, increases in both stationary and mobile sources are subject to the more stringent rules and regulations of the SCAQMD's AQMP.

Mobile Source Emission Impacts

There is no projected date for full target buildout, therefore, mobile source emissions that would occur under the proposed Land Use Plan are calculated for the year 2020, which signifies the temporal limit of the emissions model. Ideally, air pollution impacts for buildout of the proposed Land Use Plan should be analyzed at the buildout year, but future emission levels are highly dependent on the introduction of engineering controls into the vehicle fleetmix. Even if a year could be established for general plan buildout, it would be meaningless to estimate the emissions factors for a year so far in the future, as many changes are likely to occur over the next 30 years in the types of vehicles and emission controls that will be in use. Various automobile and truck manufacturers anticipate the mass production of natural gas, methanol, and electric vehicles within the next 20 years. Introduction of these types of alternatively fueled vehicles would significantly reduce the emission factors for future years. Even use of the year 2020 provides only a rough estimate of future emission levels since some emissions will occur before this year and some after it. Nonetheless, comparison with existing 1991 emission levels provides a rough estimate of the impacts of the proposed plan.

Mobile source emission levels are calculated for the years 1990 (based on 1991 land use) and 2020 using URBEMIS 3, a computer model developed by the California Air Resources Board (CARB). These calculated emission levels are shown in Tables 4-2 and 4-3 with computer printouts presented in Appendix E.

Table 4-4 presents the calculated change in air emissions between 1991 and 2020 for the different land use designations. Positive values indicate increases in emissions and negative values indicate decreases in emissions for the specific pollutants. The appropriate values in Table 4-4 show the relative increases and decreases in emission levels that can theoretically be expected for the City over the period of 1991 to 2020 under the proposed plan.

As indicated in Tables 4-3 and 4-4, emissions from mobile sources would increase significantly in the future. For example, buildout traffic generation (analyzed with 2020 emissions rates) would generate approximately 354,256 pound per day of CO, 68,172 pounds of NO_x, 274,983 pounds of PM10, 35,545 pounds of organic compounds, and 7,731 pounds of SO_x. Although these figures are estimates and, depending upon changes in transportation patterns and technology, may be overestimated, they indicate the significant increases in emissions that would accompany development under the proposed Land Use Plan. Due to the tremendous increase in emissions, and existing exceedances in the SEDAB and South Coast Air Basin, the increase in mobile emissions is considered significant.

TABLE 4-2
1991 MOBILE SOURCE EMISSIONS FOR THE PLANNING AREA[a]
(lbs/day)

Land Use (Trip Rate)	Vehicle Trips	Pollutants TOC	CO	NOx	PM10	SOx
Single-Family (10.1/unit)	214,509	4,292.0	37,448	5,256	548	574
Multiple-Family (6.0/unit)	36,191	725	6,321	887	92	97
Mobile Home (4.8/unit)	9,485	190	1,655	232	24	25
Retail (275.2/acre)	145,560	2,474	20,383	3,467	4,611	386
Office (196.0/acre)	3,214	60	516	83	268	9
Industrial (51.8/acre)	46,496	1	8,313	1,300	4,239	147
Medical Office[b] (446.9/acre)	--	--	--	--	--	--
Commercial Manufacturing[b] (86.0/acre)	--	--	--	--	--	--
Recreational (3.7/acre)	2,478	41	338	58	48	6
Business Park[b] (140.0/acre)	--	--	--	--	--	--
Special Generators (varies)	7,860	145	1,220	200	545	22
Public Facilities (558/acre)	1,746	30	252	42	100	5
Schools (1.3/student	14,931	275	2,317	380	103	43
Total	482,488	9,189	78,763	11,905	11,510	1,314

[a] Assumptions for trip lengths are listed in Appendix E.

[b] New land use category. Existing uses have been distributed into retail, office, and industrial commercial categories.

Source: DKS Associates 1992; Michael Brandman Associates 1992; City of Palmdale Circulation Element 1992.

TABLE 4-3

PREDICTED MOBILE SOURCE EMISSIONS AT BUILDOUT (2020)
(lbs/day)

Land Use (Trip Rate)	Vehicle Trips	Pollutants TOC	CO	NOx	PM10	SOx
Single-Family (10.1/unit)	997,882	10,147	105,311	18,367	6,257	2046
Multiple-Family (6.0.unit)	222,205	2,261	23,450	4,090	1,393	456
Mobilehome (4.8/unit)	13,728	140	1,449	253	86	28
Retail (275.2/acre)	723,396	6,443	61,060	12,920	56,287	1,467
Office (196.0/acre)	95,256	959	9,347	1,894	19,526	217
Industrial (51.8/acre)	560,165	6,010	59,397	11,793	125,467	1,354
Medical Office (446.9/acre)	8,938	79	745	158	564	18
Manufacturing (86.0/acre)	24,252	293	2,955	567	3,459	66
Recreational (3.7/acre)	2,292	20	189	40	109	5
Business Park (140.0/acre)	724,360	7,707	76,043	15,137	162,074	1,737
Special Generators (varies)	66,500	640	6,174	1,271	11,319	145
Public Facilities (558.0/acre)	52,452	493	4,732	982	7,669	112
Schools (1.3/student)	36,600	353	3,404	700	6,240	80
Total	3,528,026	35,545	354,256	68,172	274,983	7,731

Source: Michael Brandman Associates 1992, City of Palmdale Circulation Element 1992.

TABLE 4-4
CHANGE BETWEEN 1991 AND BUILDOUT MOBILE SOURCE EMISSIONS FOR THE PALMDALE PLANNING AREA
(lbs/day)

Land Use (Trip Rate)	Vehicle Trips	Pollutants TOC	CO	NOx	PM10	SOx
Single-Family (10.1/unit)	783,373	5,855	67,863	13,111	5,709	1,472
Multiple-Family (6.0.unit)	186,014	1,536	17,129	3,203	1,301	359
Mobilehome (4.8/unit)	4,243	-50	-206	21	62	3
Retail (275.2/acre)	577,836	3,969	40,677	9,453	51,676	1,082
Office (196.0/acre)	89,042	899	8,831	1,811	19,258	208
Industrial (51.8/acre)	513,669	5,053	51,084	10,493	121,228	1,207
Medical Office (446.9/acre)	8,938	79	745	158	564	18
Manufacturing (86.0/acre)	24,252	293	2,955	567	3,459	66
Recreational (3.7/acre)	-186	-21	-149	-18	61	-1
Business Park (140.0/acre)	724,360	7,707	76,043	15,137	162,074	1,737
Special Generators (varies)	58,640	495	4,954	1,071	10,774	123
Public Facilities (558.0/acre)	50,688	463	4,480	940	7,569	107
Schools (1.3/student)	21,669	78	1,087	320	5,205	37
Total	3,042,538	26,356	275,493	56,267	263,473	6,417

Source: Michael Brandman Associates 1992.

STATIONARY SOURCE EMISSION IMPACTS

Utility Emissions

Stationary source emission levels related to the generation of natural gas and electricity required to serve the City of Palmdale were calculated for 1991 and 2020 using emission factors contained in the SCAQMD's 1987 Air Quality Handbook. Land use designations, their relative consumption factors, and their relative emission factors were used to compute the estimated utility emission levels. The values are an approximation based on the same land use assumptions used to generate the long-term mobile emission levels above. No emissions have been attributed to the park and landfill land use designations because these two land uses typically consume an insignificant amount of natural gas and electricity.

TABLE 4-5

1991 UTILITY EMISSIONS FOR THE PALMDALE PLANNING AREA (lbs/day)

	Pollutants				
Land Use	CO	NOx	SOx	Particulates	HC
Residential[a]	215	1,030	59	20	35
Commercial[b]	84	491	40	13	7
Industrial[c]	260	1,513	116	40	28
Total	559	3,034	215	73	70

[a] Includes single-family, multiple-family, and mobilehome units.
[b] Includes retail, office, business park, recreation, public facilities, and schools.
[c] Includes manufacturing, misc. trip generators, USAF Plant 42, and airfield/related development uses.

Source: Michael Brandman Associates 1990 and SCAQMD 1987.

TABLE 4-6

ESTIMATED UTILITY EMISSIONS AT BUILDOUT FOR THE PALMDALE PLANNING AREA (lbs/day)

Land Use	Pollutants				
	CO	NOx	SOx	Particulates	HC
Residential[a]	1,031	4,932	278	97	173
Commercial[b]	1,232	7,149	429	198	113
Industrial[c]	3,399	19,732	1,571	529	337
Total	5,662	31,813	2,278	824	623

[a] Includes single-family, multiple-family, and mobilehome units.
[b] Includes retail, office, business park, recreation, public facilities, and schools.
[c] Includes manufacturing, misc. trip generators, USAF Plant 42, and airfield/related development uses.

Source: Michael Brandman Associates 1990 and SCAQMD 1987.

Table 4-7 presents the change in utility emissions between 1991 and 2020. Positive values indicate increases in emissions for the specific pollutants from the year 1991 to the year 2020. The changes in utility emission levels presented in Table 4-7 are approximations. As indicate in Table 4-7, emissions from utilities are all expected to increase. CO emissions would increase over 5,100 pounds per day, nitrogen oxides would increase by 28,779 pounds per day, and particulates would increase by 751 pounds per day. These increases would cause a significant impact on local and regional air quality.

TABLE 4-7

CHANGE BETWEEN 1991 AND BUILDOUT UTILITY EMISSIONS IN THE PALMDALE PLANNING AREA (lbs/day)

Land Use	Pollutants				
	CO	NOx	SOx	Particulates	HC
Residential[a]	816	3,902	219	77	138
Commercial[b]	1,148	6,658	389	185	106
Industrial[c]	3,139	18,219	1,455	489	309
Total	5,103	28,779	2,063	751	553

[a] Includes single-family, multiple-family, and mobilehome units.
[b] Includes retail, office, business park, recreation, public facilities, and schools.
[c] Includes manufacturing, misc. trip generators, USAF Plant 42, and airfield/related development uses.

Source: Michael Brandman Associates 1992 and SCAQMD 1987.

Short-Term Construction Emission Impacts

Heavy construction is a source of fugitive dust and exhaust emissions that could have a substantial temporary impact on local air quality. Preparation of the areas for building construction would produce two types of air contaminants: exhaust emissions from construction equipment and fugitive dust generated as a result of soil movement and the use of unpaved roads by construction equipment. The emissions produced during construction, although potentially significant, are short-term. It is infeasible to predict levels of construction emissions for the City of Palmdale in the future without accurate knowledge of future construction activities, meteorological conditions, equipment usage, and many other factors. It is assumed that these emissions will occur in one or more parts of the Planning Area, in widely varying amounts, every day, as construction occurs.

Exhaust Emissions From Construction Equipment

Exhaust emissions vary substantially from day-to-day depending on the amount and types of equipment used, as well as the duration of operation. It would be meaningless to estimate air impacts from construction equipment without specific data on the type and volume of construction activity, the amount and type of equipment, and various other factors which can be expected in the future.

Fugitive Dust Emissions

Fugitive dust is one of the major contributors to PM10, an EPA criteria pollutant which includes particulate matter of 10 microns or less in diameter. It is estimated that approximately 50 percent of fugitive dust is comprised of PM10. The actual values of fugitive dust and PM10 created by a development project depends on soil moisture, silt content, wind speed, construction density, and many other factors. Additionally, soil wetting procedures are generally required to reduce fugitive dust. These measures typically eliminate approximately 50 to 75 percent of construction-generated fugitive dust.

Grading is expected on thousands of acres during the buildout period. The EPA estimates that each acre of soil disturbed creates roughly 110 pounds of dust per day. However, this factor varies greatly depending on daily meteorological conditions, level of construction, and many other factors. The travel distance of particulate matter depends on such factors as particle size, moisture content, and initial wind speed. The AQMP requires, through Rules 102 and 103, that fugitive dust not be a nuisance offsite. While the total amount of fugitive dust created would be significant during construction periods, soil wetting and other procedures would minimize impacts offsite.

Other Stationary Source Emissions

As stated earlier, the natural gas and electricity supplied to the City of Palmdale is not generated within the Antelope Valley. Therefore, increases in utility emissions would not impact the Palmdale area. It would be impossible to determine where the increase in power would be generated where the associated emissions from power generation would occur. Emissions from the increase in power generated to serve the City of Palmdale

in the year 2020 would contribute cumulatively on a regional scale to emission levels within the vicinity of the power generating facilities.

Unlike emissions from utility generation, other stationary sources within the City of Palmdale directly affect the local air quality. Some equipment used by the various land uses in the study area, such as heating/cooling equipment, consumer products, dry cleaning equipment, gasoline pumps, restaurant equipment, and even home barbecues, have the potential to emit or significantly alter criteria pollutant concentrations. Although it is difficult to calculate emission levels from existing stationary sources without accurate data on the amount, type, and operation of such equipment, it is important to note that these types of stationary sources can comprise a significant portion of pollutant sources in an area. Emissions from current and future stationary sources in the City of Palmdale are not quantified in this analysis and represent a potentially substantial increase in local and regional emission levels.

Air Quality Thresholds

Air quality thresholds for use in the CEQA analysis of proposed projects in the City of Palmdale are listed below.

1. Project air quality impacts will be considered significant if the project causes an exceedance of any state or national Ambient Air Quality Standard (AAQS). State and national AAQSs are listed in Table 3-5.

2. Project air quality impacts will be considered significant if the project causes a measurable increase in any pollutant concentration that is already in exceedance of any state or national AAQS.

3. Project air quality impacts will be considered significant if the project exposes sensitive receptors to substantial pollutant levels.

4. Project air quality impacts will be considered significant if they exceed the recommended significance levels for stationary sources as shown in the SCAQMD Handbook for Preparation of Environmental Impact Reports 1987 or adopted SCAQMD significance criteria. The handbook and significance criteria will be revised in late 1992.

According to these criteria and the calculated increases in mobile and stationary emissions, development in the Palmdale Planning Area under the proposed land use plan will have a significant impact on local and regional air quality.

Mitigation Measures

The proposed General Plan contains goals, policies, and implementation programs that were established to guide future development and reduce its environmental impacts. They are guidelines and actions that will be implemented by the City to address citywide concerns. Although part of the proposed project, these goals, policies, and programs will serve as mitigation measures for the environmental impacts of development under the proposed General Plan. The following policies and implementation programs are contained in the draft Environmental Resources Element and will reduce the impacts of development on local and regional air quality.

Implementation Programs

D. Air Quality Measures

1. The City shall comply with the South Coast Air Quality Management District requirements to implement the Tier I, II, and III control measures described in the South Coast Air Quality Management Plan (SCAQMP), to the extent these measures apply to Palmdale.

2. To reduce mobil source emissions, the City will implement a trip reduction ordinance. The ordinance should consider the number of vehicle miles travelled (VMT) that are estimated to be generated from an individual development project. If a project demonstrates a reduction of VMT on a regional basis, then only stationary and construction emissions need be addressed. However, if a project will increase the vehicle miles travelled in the region, a mitigation program would be required to offset mobil source emissions. The mitigation could include, but would not be limited to, development of telecommuting facilities; improvements to regional circulation systems; implementation of transportation demand management programs; or payment of a fee, based on vehicle miles travelled, to be used toward implementation of city efforts such as metro-rail, enterprise zones, commuter ridesharing programs, or other measures designed to meet the City's air quality goals.

3. The City should support legislation that would provide tax incentives for developers to establish work centers in housing-rich Palmdale, and vanpool tax credit legislation which includes such provisions as granting tax exempt status to compensation received for specific

ridesharing programs; allowing tax deductions for employees who rideshare; and special tax credits for electric vanpools and clean-fuel vans.

4. To the extent feasible, implement the following measure to reduce emissions from Palmdale Airport (PMD):

   a. Reduce vehicle miles travelled to Palmdale Regional Airport through an Airport Ground Access Program for airport employees and passengers;

   b. Reduce emissions by using ground power systems that include centralized air conditioning systems, while aircraft are parked at terminal gates;

   c. Encourage the Airport Operator and SCAQMD to have all carriers use only Stage III aircraft in scheduled fleets using PMD;

   d. Recommend a "gate hold" procedure at PMD;

   e. Advocate a design for high speed taxiways that most effectively reduces emissions and conserves fuel;

   f. Implement an engine shut down program if the benefit in reduction of ROG and CO emissions and energy conservation exceeds the adverse impact of increased NO_x emissions;

   g. Develop procedures to reduce fuel use by ground support vehicles, and ultimately to rely completely on cleaner alternate fuels.

5. To reduce emissions from natural gas combustion and electricity generation, the City will incorporate the most energy-efficient design consistent with a reasonable rate of return when retrofitting existing facilities and equipment in city buildings. In addition, the City will develop a public information program on energy conservation and cooperate with utilities to encourage energy audits of existing structures, identifying levels of existing energy uses and potential conservation measures.

6. The City will analyze the potential for the alternative use of any public facility, which is slated to be closed or consolidated with another facility, as a neighborhood work center; this policy should be communicated to affected agencies, such as the school board and library commission.

7. The City will adopt appropriate ordinances relating to trip reduction, non-motorized transportation, employer rideshare and transit incentives, parking management, merchant transportation incentives, auto use restrictions, and truck routing to both achieve compliance with the South Coast Air Quality Management Plan and implement city programs and standards.

Policies

- **Objective ER5.1**. Minimize local air pollution caused by vehicles.

- **Policy ER5.1.1**. Reduce work-related trips through such means as promoting alternate work schedules, telecommuting, the use of alternative modes of transportation to the workplace, and the creation of additional park-and-ride facilities.

- **Policy ER5.1.2**. Reduce vehicle non-work trips through merchant transportation incentives and transit system improvements.

- **Policy ER5.1.3**. Reduce vehicle emissions through maintaining and improving traffic flow as contained in the Circulation Element.

- **Policy ER5.1.4**. As technology allows, reduce tailpipe emissions from city vehicles by replacing them with alternative fuel vehicles, and encourage reduction of emissions from private vehicles by requiring preferential parking for alternative fuel vehicles.

- **Policy ER5.1.5**. To the extent practicable, require control of emissions from the future Palmdale Regional Airport.

- **Policy ER5.1.6**. Expand the services of the existing dial-a-ride program resulting in reduced need for automobiles and parking by retired citizens.

- **Objective ER5.2**. Minimize activities which generate dust, specifically particulates less than 10 microns in size (PM10).

- **Policy ER5.2.1**. Reduce dust from unpaved roads and parking lots by requiring paving or vegetative stabilization of the unpaved areas; require that measures be taken at construction sites to prevent deposition of soil onto public rights-of-way.

- **Policy ER5.2.2**. Encourage developers to maintain natural contours to the greatest degree possible, to eliminate the need for extensive land clearing, blasting, ground excavation, grading, and cut and fill operations.

- **Policy ER5.2.3**. Require erosion control measures on new development, including covering soil with straw mats or use of chemical soil and dust binders, followed by seeding and watering as soon as possible after grading to prevent fugitive dust.

- **Objective ER5.3**. Reduce and/or eliminate unnecessary sources of air pollution.

- **Policy ER5.3.1**. Promote the SCAQMD's efforts to eliminate emissions from such sources as excessive car dealership cold starts, excessive curb idling, emissions from advertising

vehicles, and emissions from leaf blowers, among others, through assisting with implementation and enforcement of district programs once they are adopted.

- **Policy ER5.3.2**. Work with Caltrans and the L.A. County Sheriff's Department to minimize nonrecurrent congestion which contributes emissions from vehicle idling, by designing effective street systems and identifying appropriate truck routes.

- **Policy ER5.3.3**. Reduce reactive organic compound (ROC) and particulate emissions from building materials and construction methods, by promoting the use of nonsolvent-based, high-solid, or water-based coatings, and requiring compliance with all pertinent SCAQMD rules.

- **Objective ER5.4**. Minimize emissions of air toxins and pollutants which contribute to global warming and ozone depletion.

- **Policy ER5.4.1**. Promote community awareness of the effects of global warming and ozone depleting gases, as well as methods to minimize the creation of those gases, by preparing and distributing educational materials, and cooperating with SCAQMD in establishing regional programs.

- **Policy ER5.4.2**. Through the environmental review process for new development applications, ensure that emissions of air toxins are minimized.

- **Objective ER5.5**. Reduce air pollution caused by energy consumption.

- **Policy ER5.5.1**. Encourage energy conservation from all sectors of the community by promoting the use of energy efficient appliances, processes, and equipment, and promoting energy audits of existing structures.

- **Policy ER5.5.2**. Require local government, Palmdale citizens, and local businesses and industries to recycle, as mandated by state law, and to otherwise recycle to the extent possible.

- **Policy ER5.5.3**. Require that new construction promote the use of solar energy systems by providing maximum solar access.

- **Objective ER5.6**. Minimize emissions from indirect sources such as commercial, residential, and recreational development.

- **Policy ER5.6.1**. Ensure that new development reduces project-related vehicle miles traveled to the maximum extent feasible.

- **Policy ER5.6.2**. Promote the creation of high occupancy vehicle lanes on State Route 14.

- **Policy ER5.6.3**. Reduce the number of people commuting to the Los Angeles metropolitan area by promoting actions to increase the area's jobs/housing balance.

- **Policy ER5.6.4**. Support the development of a rail system between Palmdale and Los Angeles.

The Circulation Element contains additional measures to reduce vehicle trips and traffic congestion within the Planning Area. These policies and programs are noted in Section 4.2.9 of this EIR.

Although the measures listed in the Environmental Resources Element and Circulation Element will substantially reduce mobile and stationary emissions, the amount of development anticipated under the proposed land use plan and the number of vehicle trips anticipated with development will produce air emissions that cannot be mitigated to less than significant levels.

4.2.3 WATER RESOURCES

4.2.3.1 Groundwater Resources

Water continues to be a primary concern for the City and surrounding communities. The reliance on groundwater and the costs associated with imported water (with the apparent inability of the California Water Project to deliver full entitlement) compound the concern for depletion of local groundwater resources and the deterioration of water quality.

Recharge

The depletion of groundwater resources in Palmdale will be dependent on the amount of recharge and on the availability of alternative sources. Alternative sources will be more crucial if annual recharge (rain, snow, irrigation, ground seepage) continues to be less than the amount withdrawn. Precipitation and ground percolation is often less than the amount of water pumped through wells. Also, groundwater depletion could be critical if there are setbacks on the availability and cost of acquiring imported water from the California

Water Project through Antelope Valley-East Kern Water District (AVEK) and the Palmdale Water District (see mitigation measures listed below) for water usage.

The County of Los Angeles has initiated a program to percolate water into the groundwater through spreading basins and injection wells (using water purchased from the California Water Project in seasons of lowest water usage). In 1987-88, 2,927.1 acre-feet of local water was spread in the Big Rock Wash area to reduce groundwater overdraft. Still, groundwater levels have declined steadily in the Lancaster groundwater basin. The recharge water may require testing and treatment in order to avoid introducing contaminated water into the groundwater basin. This program is dependent on the availability of aqueduct water.

The Palmdale Water District has started a water conservation program by encouraging the use of a conservation kit designed to reduce toilet and faucet flows together with a leak detector. AVEK also indirectly encourages the use of imported water over local water by making costs competitive with local groundwater costs.

Future development may bring about the rechannelization of water courses or removal of water recharge surfaces. This could disrupt biological communities and ecological systems. Reduced water flows in Amargosa Creek and Little Rock Wash drainages could result in insufficient water flows into Rogers and Rosamond Dry Lakes for resurfacing of the lake beds needed for space shuttle and other test flight landings. The City is working with the County of Los Angeles and the Air Force to insure that adequate flows are retained to insure resurfacing. Development will also result in the increase of impervious surfaces (buildings, pavements, streets, or driveways) that prevent ground surface recharge of the aquifer. Local flooding may also occur as a result of this development.

Future Water Demand

The proposed Palmdale General Plan anticipates development throughout the Planning Area. Newly developed areas will obtain water from the existing sources--the local aquifer and the California Water Project. The land uses in the proposed land use plan would allow more intensive development than currently occurs.

The increase in the overall intensity of development at buildout would increase the demand for water resources to supply the needs of future residents and development. Without measures taken to abate the lowering of the water table in the area, groundwater resources will become a scarce and costly commodity in the near future.

Overdrafting or pumping in excess of the recharge is prevalent in Palmdale. An annual draft of water greater than the amount of recharge is considered overdrafting and beyond the aquifer's perennial yield. Overdrafting diminishes well productivity, increases pumping costs, degrades water quality, leads to land subsidence and ultimately uses up groundwater resources.

There are conflicting estimates of current water usage in the Palmdale Planning Area. The Los Angeles County Department of Public Works estimates current water use at 20,758 million gallons a year (1989) and the Antelope Valley Purveyors at 19,047 million gallons a year (1990) for the Planning Area. According to the Department of Water Resources, approximately 19,541 million gallons per year (59,944 acre feet) are estimated for current use by existing development. Based on typical land use capacities, 136 million gallons each day would be needed to support anticipated development at buildout of the Planning Area. These estimates do not include water savings due to water efficient appliances, such as low-flow toilets and showers, or other water conservation measures. The continued reliance on groundwater to meet current and increasing demands for potable water due to rapid urbanization of the valley has resulted in overdrafting. If no new water sources are developed, groundwater resources will be heavily overdrafted and water quality may deteriorate.

Groundwater Quality

Septic tank failure, gasoline tank leaks, and other soil contaminations, if left uncontrolled, may eventually lead to groundwater contamination (see Sections 3.12.3 and 4.2.12 for further discussion and mitigation measures). The Planning Area's reliance on groundwater resources for domestic consumption makes it critical that groundwater quality is adequate for drinking. Although the present groundwater quality is satisfactory, there is a trend toward poorer quality due to increasing urbanization and declining water tables.

Development anticipated under the new General Plan will increase the amount of impervious cover within Palmdale that will not allow absorption of rainwater. This will generate more surface runoff volume for any

given rainstorm size. This stormwater runoff transports water quality contaminants from roadway surfaces, lawns, driveways and parking lots, and other exposed structural and landscape surfaces into the storm drain system. Studies of urban runoff contamination in the Los Angeles Basin (Schafer and Gassett, June 1988) have shown different rates of pollutant generation for residential, commercial, and highway areas and, in general, increases in mass loadings of contaminants as one progresses downstream. These studies also validate the concept of heavy "first flush" contamination where runoff concentrations are highest within the first 0.5 to 1.0 inches of rain on a residential site. Typical urban runoff contamination (i.e., oil and grease, surfactant, heavy metals, solvents, pesticides, nutrients, or fecal coliform bacteria from horses and pets) can be expected within runoff reaching the local storm drain system.

Existing and expanded land uses such as quarry operations which extract sand and gravel resources close to or below the level of the water table, and associated industrial uses such as asphalt batch plants, are considered to have the potential to allow contaminants such as solvents or oils to enter the groundwater supplies. Quarry reclamation projects may also present positive opportunities for flood control, groundwater recharge, and recreational opportunities.

Some areas in Palmdale have been developed using individual septic systems for each home rather than being connected to a public sewer system. Septic systems are still used in the nonurbanized portions of the Planning Area and in some of the developed island areas. Septic systems must be maintained in order to avoid contamination of the water in surrounding areas. Installation of an adequate public sewer system may be necessary in order to preserve the quality of the groundwater resources.

The circulation plan does not address water and groundwater sources and, therefore, will not have any direct impact on groundwater resources in the Planning Area. However, the proposed housing program supports a high residential population which may contribute to the depletion of groundwater resources. In contrast, the proposed community design guidelines recommend the use of drought tolerant plants, thus minimizing the use of irrigation water. The Public Services Element proposes policies for conservation of water resources and supplying water for the needs of envisioned development. Development allowed under the draft Land Use Element would result in significant impacts on the availability of water supplies due to increased acreages and residential densities, and greater acreages of industrial and commercial uses.

Impacts of growth allowed under the proposed General Plan on water resources are considered significant.

Mitigation Measures

The General Plan contains goals, policies, and implementation programs that were established to mitigate the impacts of future development. They are guidelines and actions that will be implemented by the City to address citywide concerns. Although part of the proposed project, these goals, policies, and programs will serve as mitigation measures for the environmental impacts under the General Plan.

The Environmental Resources Element contains a number of policies and implementation programs that will reduce the impacts of future development on water resources. These policies and programs are identified below.

A. **CEQA**. The California Environmental Quality Act (CEQA) requires environmental review of projects with the potential to significantly impact the environment. The City of Palmdale will continue to implement CEQA as it is amended, through adoption of City CEQA guidelines and procedures. This will enable the application of mitigation measures to individual projects to minimize the environmental impacts of development.

H. **Mining Standards**. In accordance with the provisions of the Surface Mining and Reclamation Act (SMARA) and subsequent amendments, the City of Palmdale has adopted an ordinance implementing mineral resource management policies. Mining within designated aggregate resource areas requires approval of a conditional use permit (CUP) before operations begin. The CUP shall be granted for a period of time as specified by the Planning Commission with renewals approved by the Planning Commission. In addition, renewal is dependent on the success of proposed mitigation measure for residual hazards. The ordinance also requires a reclamation plan for returning the site to reusable condition following cessation of mining operations. State environmental regulations require ongoing monitoring of operations to ensure adequate mitigation of adverse impacts. City mining standards include the following conditions related to groundwater:

3. One of the Mineral Resource Extraction area covers a major groundwater recharge area and there exists a potential for groundwater contamination; thus, mining is not permitted below the groundwater level or to a level as determined through environment analysis.

6. Use of asphalt and petroleum-based materials or other hazardous operations which may impair groundwater quality in the quarry overlay district are prohibited unless substantial evidence is provided to demonstrate that such uses will not have significant impact on groundwater or other resources.

J. **Landscaping Standards**. The City has adopted landscaping standards which address the following needs related to groundwater.

3. Water and energy conservation techniques, such as drip irrigation, drought tolerant species, and alluvial rockscape.

5. Use of drought-tolerant plants to help in conserving water.

R. **Groundwater Recharge Program**. The City will cooperate with local water providers and flood control agencies to develop a groundwater recharge program. The City can contribute to this effort by ensuring that major retention areas be kept undeveloped to aid in water recharge.

S. **Water Recycling and Reuse**. The City should coordinate with Los Angeles County Sanitation District to investigate the expansion of water reuse programs. Treated wastewater is currently used to irrigate some agricultural areas growing non-food crops. With the growing population, supplies of treated water will increase. Treated wastewater might be used to irrigate roadside and commercial landscaping, in addition to agricultural lands, to help conserve Palmdale's limited fresh water resources. The City may offer incentives to agricultural, commercial, and residential developments that use recycled water for irrigation.

T. **Master Drainage Plan**. The City's Master Drainage Plan indicates natural drainage courses in Palmdale and other areas sensitive to flooding. Groundwater recharge areas are noted which could aid the City in developing water conservation programs. The City will actively pursue the construction of drainage facilities recommended in the plan and address development restrictions in floodplain areas. The City's Master Drainage Plan is discussed in the Public Services Element.

In addition to these implementation programs in the ERME, the City will establish implementation programs to support the following policies of the ERME that will minimize the impacts of development on groundwater resources.

- **Policy ER4.1.1**. Incorporate the use of flood control measure which maximize groundwater recharge and the use of floodways as native habitat.

- **Policy ER4.1.2**. Restrict building coverage and total impervious area in the vicinity of natural recharge areas.

- **Policy ER4.1.3**. Protect from pollutants or other materials which might degrade groundwater supplies and enhance natural recharge areas such as the Little Rock and Big Rock Creeks and the Amargosa and Anaverde Creeks, and ensure that no mineral resources recovery activities extend below the groundwater table.

- **Policy ER4.1.4**. Require that all new commercial, industrial, and residential development of one unit per acre or more connect to a sanitary sewer system prior to occupancy unless otherwise approved by the City.

- **Policy ER4.1.5**. Cooperate with L.A. County Health Department and the Regional Water Quality Control Board in monitoring industrial and commercial uses utilizing hazardous or potentially polluting materials and fluids, to prevent their discharge into the groundwater aquifer.

- **Objective ER4.2**. Minimize the impacts of urban development on groundwater supplies.

- **Policy ER4.2.1**. Promote water conserving landscape techniques through the use of native and drought tolerant plant species and landscape design standards.

- **Policy ER4.2.2**. Utilize native plants or drought resistent planting materials and drip irrigation systems where feasible within the Landscape Assessment District areas.

- **Policy ER4.2.3**. Require the use of water conserving appliances and plumbing fixtures in all new construction.

- **Policy ER4.2.4**. Coordinate with local water agencies to monitor ground water levels, state water allocations, and development approvals, to assure that development does not outpace long-term water availability.

- **Objective ER6.2**. Ensure that the Mineral Resource Extraction (MRE) area located within the Littlerock Wash alluvial fan is comprehensively planned.

- **Policy ER6.2.2**. In the Little Rock Wash area, address environmental concerns related to:

  * Groundwater contamination;
  * Sensitive Ecological Areas of flora and fauna;
  * Performance standards related to dust and noise and their impacts on surrounding properties and uses;
  * Interface between mining activities and surrounding uses;
  * Aesthetics; and,
  * Public safety.

- **Policy ER6.2.4**. The area-wide reclamation plan should analyze and plan for adequate areas for groundwater recharge.

The following implementation measures from the Safety Element will also reduce impacts.

A19. Water Quality Monitoring. The City will cooperate with the Regional Water Quality Control Board and local water purveyors to implement planning decisions which will protect groundwater quality, and incorporate recommendations from these agencies into the planning and development review process.

Programs and policies contained in the Public Services Element will reduce water consumption, encourage the use of reclaimed water, and reduce impacts on the groundwater table.
These include:

H. Water Conservation Programs and Reclamation Techniques. The City will establish the following water conservation programs to help preserve resources in the Planning Area.

1. Assist in developing public awareness programs on groundwater resources and overdrafting, to encourage residents and business in reducing water consumption.

2. Explore use of reclaimed water for irrigating golf courses, median dividers, and parkways.

3. Encourage the use of native local plants and other drought tolerant plants in landscaping throughout the City.

4. Develop a water conservation ordinance including but not limited to the following measures:

a. Encouraging the installation of low flush toilets and low flow shower heads in existing residential developments.

b. Restricting washing down of sidewalks and driveways.

c. Requirements for recycling mechanisms for commercial car washes.

d. Encouraging irrigation in the early mornings and late evenings only.

e. Encouraging water recycling on construction projects.

5. Develop a xeriscape ordinance.

With full implementation of the mitigation measures and city programs listed, including mitigation measures for individual development projects, impacts on water resources would be minimized. During drought years, local purveyors may overdraft groundwater wells. Sustained over-drafting would lower the water table below the depth of the wells, thereby diminishing well productivity as well as increasing the cost of pumping. Sustained overdrafting may also result in regional subsidence and loss of groundwater storage ability. Successful water conservation and recharge programs will reduce impacts on water resources to less than significant levels.

4.2.3.2 Surface Water/Flood Hazards

Flood hazards associated with increased development and with natural water courses may be compounded without sensitive planning of developments and completion of temporary detention facilities or Master Drainage Plan permanent facilities. Land near Little Rock Wash, Big Rock Wash, Amargosa Creek, and Anaverde Creek is especially susceptible to local flooding problems. Flooding from Little Rock and Big Rock Washes could impact mineral resource extraction areas, but 100 year flooding would not impact areas designated for residential development. The 100 year flood zone for Amargosa Creek passes through the Ritter Ranch Specific Plan area and follows the creek to SR-14. The downstream portion of Anaverde Creek 100 year flood plain generally passes through land designated for industrial and business park uses; upstream, the Creek and associated flood plain pass through the Ritter Ranch and City Ranch Specific Plan areas and nearby low-density residential zones.

Urban development reduces the total ground absorption area by creating impermeable surfaces (structures, pavement, streets). Storm runoff is augmented by nuisance water flows from development contributing to street flooding. In addition, developed areas generate irrigation water runoff from landscaping which may channel stormwater and nuisance water flow into nearby undeveloped areas and street gutters. The amount and frequency of rain is variable, and although flood waters may be diverted, the lack of a completed regional drainage system will continue to result in local flooding problems. The City has recently adopted a Master Drainage Plan. It will take approximately 20 years to complete construction of the entire system. The plan will address storm water runoff from higher slopes and existing and future developments. The Los Angeles County Department of Public Works has completed and adopted the Antelope Valley Comprehensive Plan of Flood Control and Water Conservation (June 1987) which is currently being implemented in the unincorporated portion of the Antelope Valley.

The City's Master Drainage Plan was adopted in 1989 to provide a long term solution to localized flooding. Retention and detention basins, pipes, and channels will be constructed throughout the City to protect existing and future development from flooding. Approximately $225 million worth of city improvements are proposed under the Master Drainage Plan. Funding for construction of Master Plan drainage facilities will come from a variety of sources as specified by the City's Capital Improvements Program, including special assessment districts and drainage impact fees collected from new developments. Depending on the future rate of development, it could take 10 to 20 years to fully implement the Master Drainage Plan.

As an interim flood control measure, the City requires individual development projects to provide flood control facilities within their projects which serve as detention basins for storm runoff. During the past several years, the City has required interim flood control basins for all new developments throughout the City. Culverts which carry surface runoff have been constructed at road crossings, and road shoulders have been graded to allow water to flow north toward the valley floor where it can percolate and aid groundwater recharge. In some areas, lined channels safely carry runoff down hillsides, preventing erosion by running water. Unlined channels allow runoff flow to percolate, decreasing the volume of storm water carried to the dry lake beds north of the Planning Area.

Storm drainage facilities in the City consist of both natural and lined channels. In addition to allowing groundwater recharge, natural drainage channels can support significant biological communities. However, these unimproved channels can pose a threat to life and property by the possibility of intermittent floods.

Earthquake faults can create vertical barriers to groundwater which may result in shallow groundwater conditions. They may also limit the amount of water which can percolate into the subsurface, thus increasing the amount, velocity, and erosive capacity of stormwater runoff on hillsides.

Surface rupture and groundshaking from earthquakes may result in rupture of the Lake Palmdale and Little Rock Dams, causing flooding as shown in Exhibit 3-15. Flood waters from Lake Palmdale are not expected to exceed 2.5 feet in elevation, and would impact single- and multi-family residential areas east of Sierra Highway. However, flood waters could rise as high as 50 feet deep immediately downstream of the Little Rock Dam should that structure fail. Failure of the Little Rock Dam would result in the inundation of a 300-foot wide area for 0.25 mile north of the dam. Along this length, the water depth would vary from 50 to 15 feet. The water would pass through an area designated for low density residential development at the southern edge of the Planning Area. Ten minutes after failure, the water would turn eastward for 800 feet to Avenue U where the depth would be reduced to 10 feet. The proposed Land Use Plan designates this are for mineral resource extraction (MRE). Flowing north again, the water would dissipate so that the depth is no longer a risk to developments.

In addition to dam failure and subsequent flooding, a seismic event could cause a water wave, or seiche, to occur at the Lake Palmdale Reservoir, which could potentially overtop the dam. The design report for the dam considers a reflection of the wave on return unlikely. Also, wave volume above the dam would not be substantial (approximately 1 acre-foot), and would not result in damaging floods. Flooding over the dam will not cause any damage by erosion as the existing rockfill was designed to withstand it.

In the event of a large magnitude local earthquake on the San Andreas Fault, some portions of the California Aqueduct are likely to fail. The east branch of the aqueduct is highly vulnerable to widespread damage from groundshaking hazards because it closely parallels the San Andreas Fault for over 100 kilometers. Moreover, the east branch crosses the fault at several locations near Palmdale (Leona Siphon and Barrel Springs) which

are susceptible to surface rupture hazards. The Department of Water Resources (DWR) has installed flood control gates to mitigate any structural failure.

The urban contamination potential within stormwater discharge is a primary concern for the NPDES stormwater discharge regulations that affect new construction sites (over 5 acres in size). New developments will be required to obtain permits from the State Water Resources Control Board (who has assumed responsibility for the program from the U.S. EPA). Stormwater pollution prevention plans must be developed that use structural and nonstructural Best Management Practices (BMPs) to obtain reductions in urban pollutant loadings to the "maximum extent practicable."

Installation of multipurpose detention basins or similar structural BMP features can retard the peak runoff flows and also achieve water quality enhancement through filtration, sedimentation, and aquatic system transformations. Structural BMPs, such as extended wet detention basins, dry detention basins with 24- to 48-hour residence times, "first flush" basins, or constructed pond/wetland environments, are considered examples of adequate Best Available Technology (BAT) under the NPDES regulations. Besides these point of discharge controls at the end of the storm drain system, stormwater management can involve smaller source controls throughout an individual project, such as infiltration trenches, grassed swales, modified catch basins, or oil and grease filter inlets (traps), whose main purpose is to decrease the initial volume of runoff and to minimize the potential pollutant contribution for selected small catchments with high levels of pollutant generation. When implemented at a development project site, these practices can be highly effective at reducing runoff quality constituent concentrations in downstream receiving waters, as well as total pollutant loads per storm.

Mitigation Measures

The proposed General Plan contains goals, policies, and implementation programs that were established to guide future growth in the Planning Area and mitigate the impacts of future development. These guidelines and actions will be implemented by the City to address citywide concerns. Although part of the proposed project, these goals, policies, and programs will serve as mitigation measures for the environmental impacts of development under the proposed General Plan. Implementation programs identified in the City's Safety Element

that would help mitigate the impacts of development on surface water and drainage and reduce the risks of flooding include the following:

A8. **Public Information and Education**. The City will develop programs for public information and the education of resident and businesses on flood hazards, dam inundation, geologic hazards, and other issues for which prevention measures may decrease the potential for personal injury and property damage.

A9. **City Emergency Preparedness Plan**. The City has adopted an Emergency Preparedness Plan which identifies emergency responses and recovery operations for disasters affecting the City. The City will update these procedures at least every 5 years to accommodate growth and changing situations and to reinform responsible agencies of their specific roles. Resource listings within the City Emergency Preparedness Plan will be updated annually. The City's emergency plan includes disaster recovery programs and reconstruction standards and measures as well as evacuation procedures and routes, emergency drills, monitoring and warning system, and resource listing.

A23. **CEQA**. The City will implement CEQA requirements for new development and for capital improvement projects. CEQA requires evaluation of potential impacts to public safety from seismic, flood, fire, risk of upset (spills, explosions, etc.), and other factors.

A26. **Public Records of Hazards**. The City will provide data on known hazards in the Planning Area for public review. This information will increase community awareness and personal preparedness for residents and businesses.

A27. **Regional Coordination**. The City will coordinate with Los Angeles County and the City of Lancaster in addressing public safety issues which affect the Antelope Valley, such as traffic, crime, air pollution, and water resource issues.

B2. **Floodplain Development Standards**. The City has adopted a Master Drainage Plan which establishes a consistent policy and program for handling stormwater runoff in developed areas. This plan will be coordinated with the City's capital improvement program. All development in the City must be consistent

with the Master Drainage Plan. In addition, all development in flood hazard areas will be required to comply with state and federal regulations, including:

- Executive Order 11988, Flood Plain Management
- Flood Disaster Protection Act of 1973 as amended (PL 93-234)
- National Flood Insurance Program (44 CFR Part 59-75)
- Floodplain Management Guidelines (43 PR 6030)
- Los Angeles County Flood Control District regulations

Where development in flood hazard areas cannot be avoided, the proposed project or activity must be designed or modified so as to minimize the potential adverse impacts affecting floodplains, restore and preserve the natural and beneficial values served by floodplains, and to use measures which mitigate or reduce the risk of flood loss. Mitigation must achieve protection of life, property, and the natural and beneficial values of the floodplain.

C. **Land Use Planning**. In areas where a significant hazard is present, the type of development permitted must reduce risks to an acceptable level. The land use suitability of proposed developments will be evaluate for flood hazard areas, aircraft crash zones, and the Alquist-Priolo Special Studies Zone. New development must be protected from public safety risks and must not add to existing hazards. Development shall be limited in hazard areas. Along earthquake fault zones and floodplains, development shall be minimized to low intensity uses, such as recreation, agriculture, rural residential, and open spaces.

In addition, several policies contained in the Public Services Element would reduce the impacts of development on storm drain facilities. These include:

- **Policy PS1.1.1**. Require all new development, including major modifications to existing development, to construct required onsite infrastructure improvements pursuant to city standards.
- **Policy PS1.1.2**. Require all new development, including major modifications to existing development, to construct or provide a fair share contribution towards construction of required offsite improvements needed to support the project.
- **Policy PS1.1.3**. Require that on and offsite improvements are constructed prior to occupancy of a new development project, or phase thereof, unless otherwise approved by the City.
- **Policy PS1.1.4**. Require that adequate provisions are made for maintenance of public improvements, prior to approval of any new development project.

- **Policy PS1.1.5**. When new development is proposed in vacant, rural areas which have not yet been master-planned for provision of infrastructure, require that development proponents provide for or contribute a fair share towards development of backbone plans for roads, sewer, water, drainage and community facilities, prior to granting conditional approval of development applications.

- **Policy PS1.1.6**. When reviewing applications for land use designation changes (i.e., zone change, General Plan Amendment, specific plan amendment), conduct a thorough analysis of the impacts of the proposed change on all elements of the City's infrastructure systems, and require mitigation as deemed appropriate.

- **Policy PS1.2.2**. Require that individual development projects integrate with adjacent development with respect to backbone infrastructure (streets, sewer, water, and drainage). If adjacent property is undeveloped, a conceptual plan should be prepared to show that the pending development will allow for future integration and development of adjacent properties in a manner which is reasonable from a design, construction, and cost standpoint.

- **Policy PS1.2.5**. Require that infrastructure be designed and constructed to meet ultimate capacity needs, pursuant to a master plan, so as to avoid the need for costly retrofitting.

- **Policy PS1.2.6**. Where feasible, require that consideration be given to sharing drainage detention facilities between adjacent subdivisions, with the cost shared on a "fair share" basis.

- **Policy PS1.2.7**. Ensure that street rights-of-way, drainage facilities, or other similar public infrastructure are not aligned in a manner that increases the developability of a single property at the expense of an adjacent property, unless so required by regional infrastructure plans.

- **Policy PS1.2.8**. Distribute the costs of extending infrastructure equitably among those benefiting from the improvements.

- **Policy PS1.4.1**. Adopt and annually update the City's Capital Improvement Program (CIP) to prioritize funding for public works projects in accordance with the General Plan.

- **Policy PS1.4.2**. Adopt and implement service level standards for roads, drainage, and park facilities, through ongoing monitoring of existing levels of service and through the CIP.

- **Policy PS1.4.3**. Adopt, implement, and annually review user fee and impact fee programs, to support the cost of constructing capital facilities and providing services.

- **Objective PS3.1**. Maintain and implement the City's adopted Master Drainage Plan.

- **Policy PS3.1.1**. Continue the drainage impact fee program and periodically adjust fees as needed.

- **Policy PS3.1.2**. Evaluate the impact of all new development and expansion of existing facilities on storm runoff and ensure that the cost of upgrading existing drainage facilities to handle the additional runoff is paid for by the development which generates it.

- **Policy PS3.1.3**. Make use of interim local drainage detention basins to slow stormwater runoff, until such time as permanent drainage facilities are constructed.

- **Policy PS3.1.4**. Through the development review process, reserve land from development in appropriate locations for construction of drainage facilities.

- **Policy PS3.1.5**. Require and provide for ongoing maintenance of drainage and detention facilities to ensure their continue effectiveness in controlling runoff.

- **Objective PS3.2**. Coordinate drainage master planning with environmental resource management.

- **Policy PS3.2.1**. Where feasible, plan for detention or retention facilities in areas where groundwater recharge can be accomplished.

- **Policy PS3.2.2**. Where feasible, construct drainage facilities so as to protect or enhance natural riparian habitat areas.

- **Policy PS3.2.3**. Where feasible, combine drainage facilities with opportunities for recreation, as in placement of trails within drainage easements, or placement of ball fields within detention areas.

Any project that diverts or obstructs the flow or alters the bed, channel, or bank of a river, stream, or lake (as indicated by blue lines in USGS topographic maps) is subject to regulation by Section 1601/1603 of the Fish and Game Code of the California Department of Fish and Game (CDFG). Permits shall be obtained from these agencies prior to the issuance of a grading permit.

These mitigation measures would reduce the impact of future development on storm drainage facilities to a less than significant level. They would also reduce potential flooding impacts on existing and future development to less than significant levels.

4.2.4 BIOLOGICAL RESOURCES

Environmental Impacts

The development of land allowed by Palmdale's proposed land use plan and General Plan will significantly impact biological resources by causing the loss of Joshua trees, and other native vegetation, destroying rare and endangered species and their habitat, disrupting wildlife movement corridors, and introducing imported plant and animal species. The majority of the area is currently vacant and the natural desert environment dominates the local setting.

Development under the proposed land use plan will result in intensive residential, industrial, and commercial uses. With development, site work on a parcel will involve grading, excavation work, and ground coverage. This will cause the loss of existing biological resources on the site and could result in a significant biological impact.

Areas with sensitive biological resources such as the Significant Ecological Areas, the San Andreas Rift zone, and habitats supporting sensitive plant or animal species, should have areas designated for preservation. Development of natural areas will disrupt animal and plant communities, wildlife movement corridors, water flow and percolation, as well as views and landscapes to varying degrees.

With the intensification of development potential, the conservation of ecological communities will become more difficult and ecological systems could be disrupted. Conversely, designating vacant land for natural open space and resource conservation areas, may help preserve the existence of native plant and animal communities.

The proposed land use plan designates the majority of the Planning Area for urban development, which would remove most of the native vegetation and native wildlife habitats in those areas. Development around open space areas and parks creates fragmented biological communities that may not survive for long. The proposed circulation plan includes the widening of roads which may also impact biological communities.

Two plant communities found within the Planning Area which are considered sensitive by the California Department of Fish and Game are riparian and oak woodlands. These areas are designated for low density residential and specific plan development. Development in these areas would result in the loss of these sensitive plant communities and consequently the loss of habitat for associated animal species. Although portions of the specific plan areas would be preserved as open space, this impact would be considered significant. In addition, Joshua trees are considered sensitive by the County of Los Angeles and the City of Palmdale. Development in areas where Joshua trees occur usually involves the direct removal of Joshua trees. This impact would be considered significant in the absence of the City of Palmdale's recently adopted Native Desert Vegetation Ordinance.

In addition, development may have indirect impacts on adjacent native plant communities. This includes intrusion by exotic plant and animal species, off-road vehicle use, and increasing intrusion by people.

Sensitive species which may be impacted by development are Peirson's morning-glory, desert cymopterus, alkali mariposa lily, Mohave spineflower, short-joint beaver-tail cactus, desert tortoise, silvery legless lizard, coast horned lizard, Le Conte's thrasher, black-shouldered kite, northern harrier, merlin, burrowing owl, long-eared owl, loggerhead shrike, California horned lark, Mohave ground squirrel, pale big-eared bat, and American badger as described in Section 3.4 of this EIR. Because of the sensitive nature of these species, any impact to them, including loss of habitat, is considered potentially significant.

Impacts on biological resources resulting from developments that will be accommodated under the General Plan are considered significant. The degree of significance will depend upon the level of mitigation required on a project-by-project basis.

Mitigation Measures

The General Plan contains goals, policies, and implementation programs that were established to mitigate the impacts of future development. They are guidelines and actions that will be implemented by the City to address citywide concerns. Although part of the proposed project, these goals, policies, and programs will serve as mitigation measures for the environmental impacts of development under the General Plan. Measures to mitigate

the impact of development on biological resources of the Planning Areas include the adoption of standards and ordinances that protect biological resources from damage and destruction. Specifically, Goal ER2 of the Environmental Resources Element is to: "protect significant ecological resources and ecosystems, including, but not limited to, sensitive flora and fauna habitat areas." The City's objective pertaining to this goal is to identify and preserve significant ecological areas to the highest extend feasible. To that end, the City proposes the following policies:

- **Policy ER2.1.1**. The following broadly defined areas will be designated as a Significant Ecological Area (SEA) overlay on the General Plan Land Use Map: Big Rock Wash, Little Rock Wash, Ritter Ridge, and Portal Ridge. Biological surveys should be performed to determine the nature and extent of their ecological significance prior to any approval of new developments within the overlay area. Development will not be permitted in these areas if the development is likely to significantly degrade important environmental resources.

- **Policy ER2.1.2**. Promote only compatible and, where appropriate, passive recreational uses in natural areas determined to be ecologically significant, consistent with the particular needs and characteristics of each SEA as determined by approved field observation reports.

- **Policy ER2.1.3**. Solicit and use all available sources of local, regional, state, and federal funds to acquire significant wetland areas, in order to minimize the disturbance and prevent damage from erosion, turbidity, siltation, a loss of wildlife and vegetation, or the destruction of the natural habitat.

- **Policy ER2.1.4**. Preserve natural drainage courses and riparian areas where significant concentrations of ecological resources exist.

- **Policy ER2.1.5**. Maintain significant Joshua tree woodlands and other significant habitat areas.

In addition, the implementation programs of the Environmental Resources Element will provide standards for development in sensitive ecological areas and for the preservation of biological communities in the Planning Area.

CEQA. Individual developments in the Planning Area will be subject to environmental review under CEQA. This review process will identify specific mitigation measures for each project to reduce project impacts on biological resources.

Biological Measures. The City shall require biological assessments and reports for projects in known or suspected natural habitat areas prior to project approval. These reports will be used to establish significant natural habitat areas and ecologically sensitive zones in order to prevent disturbance and degradation of these areas. Recommended mitigation measures as identified in the reports will be required to be implemented as development occurs.

Native Desert Vegetation Ordinance. The City's Native Desert Vegetation Ordinance is designed to preserve a number of specimen quality juniper and Joshua trees which add to community identity, and to encourage the use of native vegetation for new development. All landscaping for new developments must conform to the requirements set forth in the Native Desert Vegetation Ordinance. In addition, the City may require preservation of significant stands through use of the Specific Plan process or an equivalent planning process.

Landscaping Standards. The City has adopted landscaping standards which address preservation or enhancement of biological resources. The standards emphasize the use of compatible native plant materials or newly graded areas and allows the City an opportunity to promote native vegetation and set guidelines for landscaping and irrigation. The City has developed a listing of recommended plant species for new development and has compiled a separate listing of representative plant species found in the western Mojave Valley for use in developing "native" landscaping plans.

Hillside Ordinance. The City has developed a Hillside Ordinance to protect the hillsides and associated biological resources from insensitive development. The ordinance contains standards which will apply to areas with a natural slope of 10 percent or more. These standards will help to preserve open space, native vegetation, wildlife habitat, and visually prominent landforms.

Open Space and Conservation Plan. The open space and conservation plan will provide for the acquisition and maintenance of vital open space areas and will assist in preserving sensitive habitats and species, where present. The Ritter Ridge, Portal Ridge, Little Rock Wash, Big Rock Wash, and Alpine Butte areas should be evaluated to determine the nature and extent of any significant ecological areas, and an appropriate financing mechanism established to acquire those areas of particular importance. All available regional, state, and federal funding will be solicited in order to acquire targeted significant ecological areas. The plan should also include

criteria to identify appropriate new open space areas and to evaluate potential additions to the open space network. Additionally, the City may require dedication of open space, when appropriate, as a part of the development review process.

Species of Special Concern. The City shall continue to promote the protection of sensitive, rare, threatened, and endangered species found in the Planning Area through biological surveys required as part of the CEQA review process. The City will coordinate with the California Department of Fish and Game and the U.S. Fish and Wildlife Service to determine the best means of providing protection. In addition, the City is participating in preparation of the West Mojave Coordinated Management Plan, which will provide management prescriptions for desert tortoise and Mohave ground squirrel.

The City shall identify and inventory areas of significant sensitive ecological habitat and shall prohibit disturbance of these areas to the extent feasible, and shall establish preventive measures where sensitive ecological areas have been determined to occur adjacent to equestrian trails, including signage or moving the trails.

Many of these mitigations may be required in consultation with federal, state, and local agencies as outlined in various laws and ordinances. These are intended as general considerations and project-specific mitigations will be determined as development is proposed.

The implementation of the General Plan will result in significant impacts to biological resources. The loss of habitat and desert vegetation that is anticipated with development of the Planning Area can be reduced substantially with implementation of the mitigation measures, but cannot be mitigated to a level less than significant.

4.2.5 NATURAL RESOURCES

Environmental Impacts

The proposed land use plan of the City of Palmdale anticipates the continued urbanization of the Planning Area. This urbanization will have an impact on the natural resources in the area. Development activities may identify the presence of additional resources, limit access to known aggregate resource deposits, allow immediate use of these resources, or damage or destroy resources. Specific impacts, and the degree to which resources become unavailable for use, will depend upon the land use policies established to guide development in the Planning Area Land use policies can include measures to protect natural resources, encourage their use, promote development in resource areas, or a combination of these measures.

Mineral Resources

As identified in the Section 3.5, Existing Conditions, Natural Resources, regionally significant construction aggregate resources exist on the alluvial fan of Little Rock Creek in the eastern Planning Area and in Big Rock Wash[1] just east of the Planning Area. The use of areas adjacent to or within the resource areas for residential uses could have negative impacts on quarry and resource extraction operations. Neighboring residents could complain about the noise, dust, lights, truck traffic, and early hours of operation that are common with extraction activities. Mining operations also create massive changes to topography, and cause the loss of desert vegetation and habitat. Restrictions on mining and quarrying activities could prohibit or limit access to sand and gravel extraction, and raise aggregate costs in the area.

Mining is currently occurring south of Avenue S and east of 70th Street East. The aggregate being extracted there is important to the construction industry in the Antelope Valley and greater Los Angeles area. In accordance with state policy, the City of Palmdale wishes to maintain access to these mineral resources, and ensure that development occurring in the vicinity of mining operations is adequately buffered from any adverse

---

[1] Most of Big Rock Wash is outside the Planning Area, thus, the proposed General Plan will have minor impacts on mineral resources at Big Rock Wash.

effects of the mining operations, and that the extraction and processing of these mineral resources occurs without competition from other incompatible land uses. General uses within this designation may include the mixing of raw sand and gravel materials with other processed ingredients for use throughout the region, provided safeguards are in place to prevent contamination of the groundwater or damage to sensitive ecological areas within the area. The Mineral Resource Extraction (MRE) district has been designated on the proposed land use plan to recognize and permit extraction and processing of mineral resources. Generally, this designation covers the area outlined by the state as the MRZ-2 area along the Little Rock Wash with the exception of those lands that are either already developed or have already been approved for development in prior years (see Land Use Map).

Open Space

The proposed land use plan designates approximately 7,900 acres of open space in the Planning Area. The majority of existing vacant or open space areas would be developed with residential, commercial, or industrial land uses at buildout. There are two primary ways that the City can preserve open space:

- Purchase or acquisition of specific parcels with characteristics that residents want to see preserved in open space.
- Requiring the design of all new development to include open space areas.

The purchase of vacant land for open space is limited by city funds available for such purposes. Although the City and most residents agree that one of the most attractive features of Palmdale has been the vast amount of open space, this open space is difficult to preserve by regulation of development design. In the past, open space provided by individual developments tended to be smaller, local parks which are scattered instead of being arranged as a part of an overall system of open spaces. However, on two large specific plans recently approved by the City, acreage was set aside as permanent, publicly accessible open space. This concept may be used by other large developments as well, particularly in hillside areas.

Open space areas (Ritter Ridge, hillside areas, Little Rock Wash, San Andreas Rift Zone) will be lost as development occurs. In addition to designated open space areas on recently approved development projects,

1,554 acres of parks and 7,904 acres of open space areas have been designated, and will, in the proposed land use plan, remain undeveloped.

Agricultural areas are also considered open space uses. The proposed residential designation assigned to most of the land currently used for agricultural purposes does not prohibit continued agricultural use, but will eventually encourage residential development. Agriculture is permitted until such time as the land is developed. Existing agricultural production in the Planning Area is minor and is not important to the regional market. The urban designation of agricultural land may create economic pressure for its early development.

Impacts of future buildout of the proposed land use plan on natural resources are considered significant. These impacts include aggregate extraction operations areas; changes to topography due to extraction operations; loss of desert vegetation and habitat; loss of significant amounts of open space; and a potential reduction of accessibility of aggregate resources or increase in cost of resources.

Mitigation Measures

The General Plan contains goals, policies, and implementation programs that were established to guide development and mitigate its impacts. These guidelines and actions will be implemented by the City to address environmental and other concerns. Although part of the proposed project, these goals, policies, and programs will serve as mitigation measures for the environmental impacts of development under the General Plan. Implementation of programs and standards established in the Land Use Element and Environmental Resources Element of the General Plan will reduce impacts on natural resources. The programs and policies that will mitigate impacts on mineral resources include:

- **Policy ER6.1.1**. Establish a Mineral Resource Extraction (MRE) designation. Permitted uses within the MRE designation shall consist of mineral resource extraction (quarry) and quarry-related uses. Nonquarry related uses shall be permitted within the MRE area only when the Planning Commission has made the following findings:

  -- The proposed use is compatible with and will not be detrimental to existing and future quarrying operations.

-- Long-term regional aggregate needs have been evaluated and available resources will remain adequate to meet the future needs of the market region.

- **Policy ER6.1.2**. Prohibit incompatible land uses within the MRE designation.

- **Policy ER6.1.3**. Require adequate buffering measures between land uses within the MRE designation and incompatible uses outside of, and adjacent to, the MRE area.

- **Policy ER6.1.4**. The state designated mineral resources areas within Palmdale's jurisdiction shall be included in the City's MRE designation to the maximum extent feasible.

- **Policy ER6.1.5**. In order to assure the long-term viability of present and future quarry operations, the boundaries of the city's MRE designation should be designed so as to minimize interface problems between future land uses within the MRE area and future land uses outside of the MRE area. The following physical issues should be considered in establishing the boundary for the MRE designation: noise and dust generation, aesthetics/visual impacts, access to future quarry sites, protection of Significant Ecological Areas, protection of groundwater recharge areas, and probable trucking routes and their impact on the regional circulation system.

- **Policy ER6.2.1**. Adopt a Specific Plan or equivalent comprehensive planning document for the MRE district associated with the Little Rock Wash.

- **Policy ER6.2.2**: In the Little Rock Wash area, address environmental concerns related to:

  * Groundwater contamination;
  * Sensitive Ecological Areas of flora and fauna;
  * Performance standards related to dust and noise and their impacts on surrounding properties and uses;
  * Interface between mining activities and surrounding uses;
  * Aesthetics; and,
  * Public safety.

- **Policy ER6.2.3**. Establish a reclamation plan for the entire area that indicates what the various properties will be used for when mining operations cease, what the target land use designation and zoning shall be for in reclaimed lands, and how the transition to new uses shall be implemented.

- **Policy ER6.2.4**. The areawide reclamation plan should analyze and plan for adequate areas for groundwater recharge.

- **Policy ER6.2.5**. Address circulation to minimize impacts on the City's existing and planned network, and or adjacent properties.

- **Policy ER6.2.6**. Address infrastructure for the area, including appropriate means of controlling the floodway and managing the floodplain.

Mining Standards. In accordance with the provisions of the Surface Mining and Reclamation Act (SMARA) and subsequent amendments, the City of Palmdale has adopted an ordinance implementing mineral resource management policies. Mining within designated aggregate resource areas requires approval of a conditional use permit (CUP) before operations begin. The CUP shall be granted for a period of time as specified by the Planning Commission with renewals approved by the Planning Commission. In addition, renewal of the CUP is dependent on the success of proposed mitigation measures for residual hazards. The ordinance also requires a reclamation plan for returning the site to a reusable condition following cessation of mining operations. State environmental regulations require ongoing monitoring of operations to ensure adequate mitigation of adverse impacts.

The City has developed standards for mining activity in the Planning Area in conjunction with the MRE district. Mineral resource extraction is appropriate in these areas, as long as it complies with the following conditions.

- Approval of a reclamation plan in compliance with the state SMARA, as amended, and city regulations.
- Standards for development in areas adjacent to the MRE district require that all new residential, commercial, or industrial development provide buffering from quarrying operations that will conform to policies contained in the General Plan relating to noise, dust control, traffic, or other impacts identified through the environmental review process.
- Mining is not permitted below the groundwater level or to a level as determined through environmental analysis.
- Noise impacts must be minimized by ensuring that the noise level at the property line is 65 dBA or less, when noise-sensitive uses or designations abut the quarry.
- Mining areas must be fenced with a 6-foot view obstructing fence, wall, or landscaped berm along public streets or adjacent to residential areas.
- Use of asphalt and petroleum-based materials or other hazardous operations which may impair groundwater quality in the quarry overlay district are prohibited unless substantial evidence is provided to demonstrate that such uses will not have a significant impact on groundwater or other resources.

- Safety measures for routine operations shall be established prior to permit approval.
- Appropriate steps shall be taken to identify and protect any significant flora and fauna.
- All mining operations shall incorporate floodplain management provisions into their operations.

The following policies and programs will reduce impacts on open space lands within the Planning Area.

- **Policy ER1.1.1**. Utilize a variety of features, including entry points to the city, landscaped arterial roadways, bikeways, equestrian paths, hiking trails linking and park sites, to create an open space network.
- **Policy ER1.1.2**. Provide for a network of open space by linking such areas wherever possible.
- **Policy ER1.1.4**. Develop appropriate standards for development clustering and density transfer, in order to maintain areas of scenic open space throughout the Planning Area.
- **Policy ER1.1.5**. Use the City's discretionary land use approval process to locate and retain areas for use as open space through dedication or other legal means. Develop criteria and guidelines to identify areas that should be so protected.
- **Policy ER5.1.1**. Integrate natural hazard areas, such as floodways, seismic fault zones, and unstable soils, into the open space network in order to ensure public health, safety, and welfare while preserving open space.

Hillside Ordinance. The City has developed a Hillside Ordinance to protect the hillsides from insensitive development. The ordinance contains standards which will apply to areas with a natural slope of 10 percent or more. In addition to safety benefits, these standards will help to preserve open space and visually prominent landforms.

Open Space and Conservation Plan. The City's Parks and Recreation Element will develop an open space and conservation plan to begin planning the acquisition and maintenance of vital open space areas. A plan would help coordinate efforts to provide open space and recreation opportunities for residents, as well as preserving sensitive habitats and species where present. The Ritter Ridge, Portal Ridge, Little Rock Wash, Big Rock Wash, and Alpine Butte areas should be evaluated to determine the nature and extent of any significant

ecological areas, and an appropriate financing mechanism to acquire those areas of particular importance. All available regional, state, and federal funding will be solicited in order to acquire targeted significant ecological areas. The plan should also include criteria to identify appropriate new open space areas and to evaluate potential additions to the open space network. Additionally, the City may require dedication of open space, when appropriate, as a part of the development review process.

Development Fees/Parkland or Open Space Dedication. Based upon its adopted Parkland Ordinance, the City of Palmdale will require the dedication of parkland or the payment of a parks fee by new developments in the City. The fees or land must be used to provide new land for parks or to subsidize the acquisition and maintenance of parks. This measure ensures that residents of new developments will eventually have access to adequate parks and recreation facilities without overburdening the City's financial resources. Dedication may also be used to acquire open space areas.

In addition, the following measure will help to reduce impacts on both mineral and open space resources.

California Environmental Quality Act (CEQA). The City will continue to implement CEQA as it is amended from time to time, through adoption of city CEQA guidelines and procedures. The environmental review of individual projects will establish mitigation measures to reduce project impacts on mineral and open space resources.

With implementation of mitigation measures, impacts on mineral resources will be reduced to a less than significant level. The loss of open space resulting from development under the proposed plan will remain significant even with implementation of mitigation measures.

4.2.6 LAND USE

Environmental Impacts

The proposed Land Use Element establishes new land use classifications and standards of density and intensity for the Planning Area. The proposed land use classifications have been made to reflect existing development patterns where possible. The land use classifications and their definitions appear below:

Equestrian Residential: The Equestrian Residential (ER) designation is intended for single-family residential uses at a maximum gross density of .40 du/ac (1 unit per 2 1/2 acres), yielding an estimated population of 800 persons per square mile. Equestrian and related animal keeping activities are permitted within this designation. The character of areas within this designation will be rural in nature with parcel sizes of 2 1/2 acres or larger. Clustering to preserve significant natural landforms is feasible, although where this designation is located in established rural neighborhoods on level terrain, clustering may not be acceptable. Full urban services such as community water and sewer may not be available to these areas, and public improvements may be constructed to rural standards where permitted. Densities within this designation may decrease pursuant to slope density ratios established in the Hillside Management Ordinance. Actual permitted density will be determined through the development review process, based on applicable environmental and infrastructure conditions.

Low Density Residential: The Low Density Residential (LDR) designation is intended for single-family residential uses at a maximum gross density of 1 dwelling unit per acre with an estimated population of 1,600 per square mile. The Low Density designation is appropriate to hillside areas and as a transition, between rural and suburban areas. It is generally expected that urban services such as community sewer and water will be provided to new development proposed within this designation, although rural street and lighting standards may be appropriate to some projects. Minimum lot size within this designation will generally be 1 acre or larger, although clustering may be permitted to encourage preservation of natural resources and steep slopes. Densities within this designation may decrease pursuant to the slope density ratios established in the Hillside Management Ordinance. Actual permitted density will be based on applicable environmental and infrastructure conditions.

Single-Family Residential-1 (0-2 du/ac): The Single-Family Residential-1 (SFR-1) designation is intended for single-family residential uses with gross densities ranging from 0-2 du/ac and an estimated population of 3,600 persons per square mile. Net lot sizes will generally be one half acre or larger, creating a semi-rural environmental with horse/animal keeping possible. This designation may be utilized in lower hillside areas where inclines are present but topography is lacking significant slope constraints. It may also be utilized in outlying valley areas where large lot subdivisions are desired. Full urban services are expected in these areas, although larger lot subdivisions may develop with rural street and lighting standards as determined by the city. Clustering may be permitted to preserve steep hillsides and significant physical features. Densities within this designation may decrease pursuant to slope density ratios established in the Hillside Management Ordinance. Actual permitted density will be based on site-specific environmental and infrastructure conditions.

Single-Family Residential-2 (03 du/ac): The Single-Family Residential-2 (SFR-2) designation is intended for single-family residential uses with gross densities ranging from 0-2 du/ac and an estimated population of 5,600 persons per square mile. Net lot sizes will generally be 10,000 square feet or larger, although clustering may be permitted to preserve steeper terrain or significant physical features. This designation is appropriate in those areas between the valley floor and steeper hillside areas (generally having less than ten percent slope). Full urban services will be required in new development areas. Densities within this designation may decrease pursuant to slope density ratios established in the Hillside Management Ordinance. Actual permitted density will be based on site specific environmental and infrastructural conditions.

Single-Family Residential-3 (3.1 - 6 du/ac): The Single-Family Residential-3 (SFR-3) designation is intended for single-family residential uses with gross densities ranging from 3.1-6 du/ac and an estimated population of 9,700 persons per square mile. Subdivisions containing the city's standard 7,000-square-foot minimum lot size will typically be located within this designation. Densities under this designation may decrease pursuant to the slope density ratios established in the Hillside Management Ordinance. Actual permitted density will be based on site specific environmental and physical constraints.

Multi-family Residential: The Multi-family Residential (MFR 6-16) designation is intended for residential uses with densities ranging from 6-16 du/ac and an estimated population of 26,000 persons per square mile. Housing types may include a variety of attached and detached dwelling unit types, as permitted by the

underlying zone. Actual density permitted will be based on site-specific environmental and infrastructure conditions.

Office Commercial: The Office Commercial (OC) designation is designed to accommodate a variety of professional office uses, including medical, personal, business, legal, insurance, real estate, financial, and other similar uses. Limited retail, service, child care, and eating establishments may be permitted to support the primary office users within this designation, provided that they function as a supportive use and do not detract from the stated intent of this designation. This designation is appropriate between more intensive commercial uses and residential designations, or within commercial areas serving the administrative and professional service needs of businesses and the general public. The maximum floor area ratio within this designation is 1.0.

Neighborhood Commercial: The Neighborhood Commercial (NC) designation provides for convenience type retail and service activities designed to serve the daily needs of the immediate neighborhood. Goods and services provided serve the short-term needs of local residents. Typical neighborhood commercial development is located on sites of 15 acres or less, with a maximum floor area ratio of .50. Site and building designs for neighborhood commercial development should be sensitive to adjacent residential uses. Buffering should be both effective and aesthetic with site design emphasizing both automobile and pedestrian needs.

Community Commercial: The Community Commercial (CC) designation is intended for businesses providing retail and service uses which primarily serve the local market. Representative uses include restaurants, apparel stores, hardware stores, grocery markets, banks, offices, and similar uses. Goods and services intended to meet both short- and long-term shopping needs of city residents should be targeted for these areas. A typical community commercial development contains 5 to 20 acres, with a maximum floor area ratio of 1.0. Community commercial uses should have access from arterial streets, and should incorporate design measures to minimize adverse impacts to the capacity of adjacent arterial streets and to adjacent, less intensive land uses.

Regional Commercial: The Regional Commercial (RC) designation is designed to accommodate retail and service uses attracting consumers from a regional market area, extending beyond the local metropolitan area. Representative uses include department stores, regional shopping malls, automobile dealerships, hotel/motels, and large retail outlets. Regional commercial uses should be accessible via major arterial streets or freeways. Total

development area within regional commercial designations typically ranges from 40 to 100 acres or more, with a maximum floor area ratio of 1.0. Site design of regional centers should consider pedestrian needs and internal circulation that minimizes impacts on adjacent arterials.

Commercial Manufacturing: The Commercial Manufacturing (CM) designation is intended to permit mixed use development of lighter industrial uses and the more intensive service, retail, and wholesale commercial uses. Research and development, distribution, manufacturing, and wholesale or retail sale of industrial supplies, transportation equipment, building equipment and materials, and similar uses are allowed in this designation. In addition, supportive commercial uses such as restaurants or convenience markets, which serve consumers within the industrial/commercial area, may be allowed. However, the CM designation is not intended from general commercial uses, either of a retail or service nature, which will attract non-industrial users and vehicular traffic into the area. The CM district is appropriate in areas having or planning to have adequate sewer, water, transportation, drainage, utilities, and public services available to meet anticipated needs of this type of development. The designation may be used as a transitional use between more intensive industrial uses and less intensive commercial uses. Maximum floor area ratio in this district is 5.0.

Business Park: The Business Park (BP) designation is intended to permit a variety of office, research and development, light assembly and fabrication, and supportive commercial uses within an environment characterized by master-planned complexes maintaining a high quality of design and construction. Development in this designation is expected to provide enhanced landscaping and outdoor amenities to create a campus setting. Operations and storage activities are to be confined to enclosed buildings. This designation is appropriate in locations with good access and visibility from the freeway and major arterials. Site areas should be large enough to accommodate comprehensive planning, and adjacent business park developments should be designed to promote cohesive and compatible development. Maximum floor area ratio is 0.5.

Industrial: The Industrial (IND) designation is intended to permit a variety of industrial uses, including the manufacturing and assembly of products and goods, warehousing, distribution, trucking, and similar uses. Some limited commercial uses which are incidental to and supportive of the primary industrial uses may also be permitted. This designation permits the most intensive types of manufacturing and industrial uses, subject to the height, coverage, and development regulations of the underlying zone district. The Industrial designation

is appropriate in areas having, or planned to have, adequate sewer, water, transportation, drainage, utilities, and public services available to meet anticipated needs of this type of development. Where possible, industrial designations should be separated from residential areas by natural or manmade barriers, such as major arterials, utility easements, drainage courses, or railroad rights of way. Adequate land use and design standards to mitigate impacts from intense uses in this designation will be addressed through the zone districts and design review process. Maximum floor area ratio in this district is 0.5.

Airfield and Related Use: The Airfield and Related Use (A & R) designation is intended to permit public and private airfields and support facilities, aerospace related industries, transportation related industries, and commercial facilities necessary to support military and commercial air traffic. This designation will primarily apply to United States Air Force Plant 42 and the Palmdale Regional Airport site, as designated by the City of Los Angeles Department of Airports. Future development within this designation will be required to employ appropriate performance standards and design features to minimize impacts on nearby residential neighborhoods. Maximum floor area ratio is this district is 0.5.

Mineral Resource Extraction: The Mineral Resource Extraction (MRE) designation is intended to permit extraction and processing of mineral resources, including sand, gravel, and decomposed granite. Activities consistent with this designation including mining, crushing, and sales of mineral products; asphalt and concrete batching are permitted as regulated by the underlying zone district. This designation is appropriate in areas designated by the State Division of Mines and Geology as Mineral Resource Zone 2 areas, or where significant mineral resources occur, the extraction of which is determined to be beneficial. Operations within this designation are subject to all applicable policies, ordinances, and laws regulating traffic impacts, air and water quality, and land use compatibility. Maximum floor area ratio in this district is 0.25.

Open Space: The Open Space (OS) designation is intended to identify and reserve land for both natural and active open space uses, including City parks. The designation identifies existing and acquired but not yet built park sites within the community, as well as lands dedicated to the city for open space purposes. The designation is appropriate to protect sites with physical limitations, such as flood plains, very steep terrain (slopes steeper than 50 percent), or significant natural resources. Typical uses permitted within the Open Space designation include recreational uses, horticulture, agriculture, animal grazing, or similar uses.

Public Facilities: The Public Facilities (PF) designation identifies land which is, or will be, utilized for various types of public facilities, including, but not limited to, schools, libraries, hospitals, public safety and government facilities, sewer and water treatment plants, and landfills. Existing or acquired public facility sites are designated PF on the land use map; however, public facilities may be allowed in other land use designations as established by the underlying zoning. Within the PF designation, uses are specifically identified by use type on the land use map. The maximum floor area ratio within this designation is 1.0.

The proposed land use classifications are compared with existing land use classifications in Table 4-8. As shown in Table 4-8, residential land uses are grouped into seven classifications under the proposed land use plan, including three classifications for single-family residential, as well as classifications for equestrian residential, low density residential, multi family residential, and mobile home park land uses. In contrast, there are a total of 19 existing residential land use classifications for the Planning Area, including 13 residential classifications under the existing Palmdale General Plan, and 6 residential classifications for unincorporated areas of Los Angeles County located within the Planning Area.

Non-residential land use classifications under the proposed land use plan include four types of commercial land use (office, neighborhood, community, and regional commercial), commercial manufacturing, business park, and industrial land uses. These land uses would replace the three types of commercial land use classifications and three types of industrial land use classifications under the existing Palmdale General Plan, as well as the existing Los Angeles County classifications for commercial and industrial land use.

Other non-residential land use classifications under the proposed land use plan include: mineral resource extraction, airfield and related, public facilities, open space, and parks. These land use classifications would replace classifications for flood plain management, schools, parks, and open space under the existing Palmdale General Plan, and existing Los Angeles County land use classifications for airport, public facilities and open space land uses in the Planning Area.

TABLE 4-8

EXISTING AND PROPOSED LAND USE DESIGNATIONS

Residential

Existing General Plan	Proposed Land Use Plan
Nonurban Residential (1 du/10 ac)	Equestrian Residential (1 du/2.5 ac)
Rural Residential (1 du/5 ac)	Low Density Residential (0-1 du/ac)
Rural Urban Residential (1 du/2.5 ac)	Single-Family Residential (0-2 du/ac)
Nonurban Residential (0.5 du/ac)	Single-Family Residential (0-3 du/ac)
Nonurban Residential (1 du/ac)	Single-Family Residential (3.1-6 du/ac)
Suburban Residential (1-2 du/ac)	Multi-Family Residential (6-16 du/ac)
Urban Low Residential (0-3 du/ac)	Mobilehome Park
Urban Residential (3.3 du/ac)	
Urban Residential (3.1-6.1 du/ac)	
Urban Medium Residential (6.2-10 du/ac)	
Urban Medium High Residential (10.1-18 du/ac)	
Urban High Residential (18.1-26 du/ac)	
Specific Plan Zone	

Existing Los Angeles County

Nonurban 1
Nonurban 2
Urban 1-1/2
Urban 1
Urban 2
Urban 3

Commercial/Industrial

Existing General Plan	Proposed Land Use Plan
Community Commercial	Office Commercial
Regional Commercial	Neighborhood Commercial
Palmdale Boulevard	Commercial Community Commercial
Light Industrial	Regional Commercial
Medium Industrial	Commercial Manufacturing
Airport Commercial Industrial	Business Park
Industrial	

TABLE 4-8 (continued)

EXISTING AND PROPOSED LAND USE DESIGNATIONS

Existing Los Angeles County

Commercial
Industrial

Other Land Uses

Existing General Plan	**Proposed Land Use Plan**
Floodplain Management	Mineral Resource Extraction
Schools	Airfield and Related
Parks	Public Facilities
Open Space	Open Space
	Parks

Existing Los Angeles County

Airport
Public Facilities
Open Space

Source: City of Palmdale 1992.

Potential land use impacts under the proposed plan would be related to the balance and distribution of land use, the development capacity, and the compatibility of land use. These issues are discussed in the following sections.

Land Use Distribution

Table 4-9 indicates the total acreage for each proposed land use classification and Exhibit 2-3 is the proposed land use policy map (map pocket). The proposed land use plan covers a total of 111,527 acres, with 49,208 acres (representing 44.12 percent of the Planning Area) of residential land, 3,699 acres (3.32 percent) of

commercial land, 21,982 acres (19.7 percent) of commercial manufacturing, industrial, and business park land use, 5,738 acres (5.14 percent) of mineral resource extraction, 20,557 acres (18.43 percent) of airport and related, 885 acres (0.8 percent) of public facilities, and 9,458 acres (8.48 percent) of parks and open space areas.

The difference between existing land use distribution and future land use distribution under the proposed land use plan can be calculated by comparing Table 3-10 and Table 4-9. Single-Family residential land use will increase from 10.9 percent of the Planning Area (12,183 acres existing) to 41 percent of the Planning Area (46,082 acres proposed). Multi-family residential use will increase from 0.6 percent (717 acres) to 2.6 percent (2,903 acres) of the Planning Area. Mobile home parks remain approximately the same at 0.2 percent of the Planning Area, but the acreage for this use will decrease from 244 acres existing to 223 acres proposed. Commercial uses will increase from 0.5 percent (529 acres) to 3.3 percent (3,697 acres) of the Planning Area. Industrial uses (including USAF Plant 42 and related airfield uses and the newly designated business park, and commercial/manufacturing, will increase from 6.5 percent (7,312 acres) to 38.1 percent (42,539 acres) of the Planning Area Public facility uses will increase from 0.4 percent (494.0 acres) to 0.8 percent (885 acres) of the Planning Area. Parks and open space will increase from 0.6 percent (677 acres) to 7.8 percent (9,458 acres) of the Planning Area. Mineral resource extraction will constitute a new land use classification under the proposed land use plan, representing 5.1 percent (5,788 acres) of the Planning Area. All vacant and agricultural land is assumed to be lost to urban development or other uses at buildout.

In general, there would be an increase in the amount of developed land use in the Planning Area under the proposed land use plan, with the exception of mobile home parks which would have a slight decrease in land acreage. Because the distribution of land use has been designed to reflect existing development patterns, the type and quantity of land use designated by the plan is not anticipated to be a significant impact in and of itself. However, increases in development density (with resulting traffic, noise, or other impacts) or incompatibilities between land use types could be significant as discussed below.

The majority of land use would continue to be low density, single-family residential, and low intensity non-residential uses such as the airport and related land uses, or business park land use classification. Land designated for commercial and industrial or business park use is intended to diversify non-residential development and employment in the Planning Area and lessen the City's dependency on the aerospace industry. Commercial

land uses, as well as public facility uses, are also intended to provide a variety of services for the future population of the area.

TABLE 4-9

LAND USE CLASSIFICATIONS
PROPOSED LAND USE PLAN

Land Use Category	Area (acres)	Percent Planning Area
Equestrian Residential	3,583	3.21
Low Density Residential (0-1)	22,347	20.04
Single-Family Residential (0-2)	2,239	2.01
Single-Family Residential (0-3)	3,583	3.21
Single-Family Residential (3.1-6)	14,330	12.85
Multi-Family Residential	2,903	2.60
Mobile Home Park	223	0.20
Office Commercial	515	0.46
Neighborhood Commercial	605	0.54
Community Commercial	1,210	1.08
Regional Commercial	1,369	1.23
Commercial Manufacturing	282	0.25
Business Park	5,174	4.64
Industrial	16,526	14.82
Mineral Resource Extraction	5,738	5.14
Airfield and Related	20,557	18.43
Public Facilities	885	0.79
Open Space	7,904	7.09
Parks	1,554	1.39
Total	111,527	100.00

Source: City of Palmdale Planning Department 1992.

The loss of agricultural land use would not be considered a significant land use impact because the dry, desert environment in the Palmdale area is not suitable for commercial farming. Existing vacant land would be replaced with a variety of land use types under the proposed plan. Infill areas would be replaced with

development based on adjacent land use classifications. Vacant land in outlying portions of the Planning Area would be largely replaced with equestrian or low density residential. Additionally, the percentage of vacant land set aside for parks and open space would increase 13-fold under the proposed plan, from 0.6 percent to 7.8 percent of the Planning Area.

Proposed Land Use Plan Capacity

As can be seen in Table 4-10, the proposed land use plan would have a maximum residential capacity of 175,003 dwelling units, assuming each residential area was built to maximum density. The actual anticipated future development scenario, or "typical capacity," under the proposed land use plan is 139,205 dwelling units, based on Planning Department estimates of anticipated development densities for each residential land use category. The maximum capacity for commercial land uses under the proposed land use plan is approximately 85 million square feet of development, and maximum industrial capacity is approximately 3,795 million square feet of development. Based on typical floor area ratio (FAR) densities, however, approximately 51.8 million square feet of commercial development and 478.8 million square feet of industrial development would be the anticipated capacities under the proposed land use plan at buildout. The maximum and typical capacities for airfield and related uses, and public facilities would be the same at 134 million square feet and 3.8 million square feet respectively.

Build out under the maximum or typical densities for each land use type would introduce new development of residential and non-residential facilities in Planning Area. Development of the facilities themselves, as well as operation and use of the facilities would result in environmental impacts, as detailed in Section 4 of this EIR. The extent of impacts would vary depending upon the specific land use type and location of a development project.

TABLE 4-10

LAND USE PLAN CAPACITY (MAXIMUM/TYPICAL)

Residential Land Use	Area (acres)	Maximum Density (du/acre)	Maximum Capacity (du)	Typical Density (du/acre)	Typical Capacity (du)
Equestrian Residential	3,583	1/2.5	1,433	1/2.5	1,433
Low Density Residential	22,347	1.0	22,347	1.0	22,347
Single-Family Residential (0-2)	2,239	2.0	4,478	2.0	4,478
Single-Family Residential (0-3)	3,583	3.0	10,749	3.0	10,749
Single-Family Residential (3.1-6)	14,330	6.0	85,980	4.8	60,186
Multi-Family Residential	2,903	16.0	46,448	12.8	37,158
Mobilehome Park	223	16.0	3,568	12.8	2,854
Subtotal	49,208		175,003		139,205
Office Commercial	515	1.0	22,433,400	0.5	11,216,700
Neighborhood Commercial	605	0.25	6,588,450	0.25	6,588,450
Community Commercial	1,210	0 5	26,353,800	0.25	13,176,900
Regional Commercial	1,369	0.5	29,816,820	0.35	20,871,774
Commercial Manufacturing	282	1.0	12,283,920	0.5	6,141,960
Business Park	5,174	4.0	901,517,760	0.5	112,689,720
Industrial	16,526	4.0	2,879,490,240	0.5	359,936,280
Mineral Resource Extraction	5,738	--	--	--	--
Airport Related	20,557[a]	0.5	134,317,260	0.5	134,317,260
Public Facilities	885	0.1	3,855,060	0.1	3,855,060
Open Space	7,904	--	--	--	--
Parks	1,554	--	--	--	--
Subtotal	62,319		800,113,866		668,794,104

[a] Only 30 percent (6,167 acres) of this area is assumed to be potentially buildable.
Source: Palmdale Planning Department 1992.

The land use plan is designed to reflect existing development trends. In terms of land use capacity, the Palmdale area is built at a relatively low density. The land use plan would extend the low density coverage throughout most of the Planning Area, thus increasing impacts on the natural environment, including, biological, earth and water resources. Wide-spread development would also increase average vehicle trip lengths within the Planning Area, with resulting impacts on air quality and noise. Impacts on services and utility systems would also be increased due to extended areas of coverage required.

Land Use Compatibility

In general, potential land use conflicts may occur where sensitive land uses interface with land uses that generate negative impacts offsite. For example, if a high intensity industrial use was located directly adjacent to a single-family residential neighborhood, the industrial use would likely be considered incompatible with the neighboring residential uses. For this analysis, individual proposed projects are not known and cannot be analyzed at this time. Therefore, the general location of the various districts is discussed to give an indication of potential compatibility impacts. Areas which could result in land use conflicts are:

- The West Alpine Butte Sanctuary (Park) designated as open space on the eastern border of the Planning Area surrounded by industrial uses.
- The business park area location in the eastern portion of the Planning Area between Avenue Q and P, are adjacent to low density residential areas.
- The mineral resource extraction area at Little Rock Wash and surrounding residential designations.
- The single-family residential adjacent to the Airport Gateway and Airport Corridor Specific Plan, business park, and industrial land use designation located north and northeast of the downtown area.
- The low density residential adjacent to regional commercial at the intersection of Fort Tejon Road and Avenue T.
- The low density residential adjacent to business park at the intersection of Pearblossom Highway and Sierra Highway.
- The residential uses adjacent to the railroad and the Antelope Valley Freeway.

- The Industry Trade Center and adjacent equestrian residential in the northern portion of the Planning Area.
- The residential uses surrounding the landfill site on City Ranch Road.
- The residential uses within the San Andreas Rift Zone in the southern portion of the Planning Area.

General Plan Consistency

The proposed circulation plan was designed to support the proposed land use plan. It will facilitate the travel of people and goods within the Planning Area and in the surrounding region. It is also tended to protect neighborhoods from the impacts of traffic congestion and related traffic noise and air quality impacts. The Circulation Element addresses access between Palmdale and neighboring cities and communities within the Southern California region.

The Housing Element proposes a number of programs designed to provide adequate housing for present and future residents of the City. Over 75 square miles of residential land, most of which are undeveloped, are designated in the Land Use Plan. The needed residential development will occur within these areas. The housing programs have been established to provide equal access, affordable housing, and a range of housing types to meet the different needs of Palmdale households.

The Community Design Element will propose a set of design guidelines aimed at improving the aesthetic quality of the city landscape. It will not bring about any direct impact on land uses but will encourage a high quality of development in the Planning Area.

Impacts on land use are considered significant unless programs in the proposed General Plan and mitigation measures discussed below are implemented.

Mitigation Measures

The proposed General Plan contains goals, policies, and implementation programs that were established to mitigate the impacts of future development. They are guidelines and actions that will be implemented by the City to address citywide concerns. Although part of the proposed project, these goals, policies, and programs will serve as mitigation measures for the environmental impacts of development under the proposed General Plan. The following implementation programs in the draft Land Use Element are designed to address land use distribution, capacity, and compatibility issues:

A. **General Plan Land Use Map**. The City will adopt and maintain a Land Use Map, which delineates the various land use designations, in suitable locations protected from incompatible uses and hazards, to meet the anticipated development needs of the City while preserving natural resources and maintaining a high quality of life

B. **Zoning Consistency**. The City will adopt an interim zoning map to correspond to land use designations established by the Land Use Element, so as to bring zoning into compliance with the General Plan, within nine months after General Plan adoption. The interim zoning map will show parcel specific zone designations consistent with the Land Use Map

C. **City Development Code**. The City will formulate and adopt by ordinance a comprehensive Development Code, containing standards for all aspects or land development and land use including site design, use compatibility, access, parking and circulation, lot sizes and dimensions, and other development regulations designed to ensure public health, safety, and welfare. The Development Code will establish zone districts that are consistent with land use designations in the General Plan Land Use Element. In conjunction with the comprehensive Development Code, the City will revise and update its zone districts and adopt a permanent Zoning Map superseding the interim zoning map.

D. **Downtown Overlay District**. To establish a desired development pattern, enhance economic viability, and create a sense of place, the City will establish a Downtown Overlay District. This district will

establish development standards unique to the downtown area to facilitate ongoing occupancy, re-use of existing structures, and new development consistent with existing development patterns.

E. Development Review Process

1. The City will review and update its development review process pursuant to changes to State law, to ensure that projects conform to applicable development regulations.

2. The City will implement a review process which expedites processing time to the extent practicable.

3. The City will evaluate land use impacts of proposed development in accordance with the California Environmental Quality Act (CEQA).

F. Special Development Areas. The City will process and/or implement the specific plans and special development areas as designated on the Land Use Map.

G. Coordination of Land Use Decisions

1 The City will implement systematic notification and consultation procedures with outside entities affected by land use decisions within the City, including adjacent jurisdictions and town councils.

2. In recognition of the rural lifestyles present within portions of the Planning Area, the City has entered into Memoranda of Understanding with homeowners groups in these areas. These MOU's state the City's acknowledgement of the intent of these areas to remain rural in nature. The City will review development proposals adjacent to or within these areas for compatibility and/or consistency with provisions of these agreements, and consider input from the affected residents in making land use decisions.

H. Annexations. The City will evaluate fiscal, infrastructure, and land use impacts of proposed annexations to the City, as well as the desires of inhabitants within these areas, and consider these issues in making decisions on future annexations.

I. **Air Quality**. The City will promote the development of mixed use projects to place complimentary uses in proximity to each other, in order to minimize trips and resulting impacts to air quality. Additionally, the City will work with jurisdictions within the high desert region as well as state representatives to promote development and adoption of a separate air quality management plan for the Southeast Desert Air Basin portion of the South Coast Air Quality Management District.

J. Community Outreach/Public Service

2. The City will consult with the Palmdale Community Association and various homeowners associations on a regular basis to discuss land use and related issued.

3. The City will provide and maintain public information materials designed to assist homeowners, developers, and businesses in understanding the development review and permitting process.

4. The City will assess the feasibility of expanding its current computer capabilities to incorporate Geographic Information Systems (GIS) and Computer Aided Drafting (CAD) to assist in permit tracking and general land use information, and to allow for efficient maintenance of the Land Use and Zoning Maps.

K. Economic Development

2. The City will develop an environmental data base to minimize need for the costly site specific environmental studies.

3. The City will develop a municipal facilities master plan which accommodates centralized processing of development permits. This centralization will ensure maximum effectiveness, efficiency, and consistency in development processing for homeowners, developers, and members of the business community.

4. The City will assist in the establishment of special financing districts and/or construct infrastructure through reimbursement programs in an effort to promote development of new commercial and industrial development, as deemed appropriate by the City Council.

5. The City will develop and make use of incentive programs designed to promote industrial development in the Palmdale area. This effort includes establishment of a Foreign Trade Zone, Enterprise Zone, and similar programs designed to stimulate economic activity.

L. **Redevelopment**. The City will use redevelopment as a tool for establishing and maintaining desired developments. The City of Palmdale has established a community redevelopment agency (CRA) and designated four project areas in accordance with Section 33000 et seq of the Health and Safety Code of the State of California. This designation gives the City additional funding options to finance improvements necessary to correct physical constraints (i.e., flood hazards) and infrastructure deficiencies in support of the development planned for the project areas.

M. **Subsequent Review**. The City will review the Land Use Element every five (5) to seven (7) years to determine if land use designations, goals, policies, objectives, and implementation measures reflect the changing needs and desires of the community. Subsequent amendments to the element may be undertaken as a result.

Impacts related to land use capacity will require implementation of mitigation measures to reduce impacts on geology, air quality, water, biology, natural resources, noise, light, housing, cultural resources, aesthetics, traffic and circulation, energy conservation, public services, and utilities. These impacts and corresponding mitigations are addressed throughout Section 4.

With implementation of mitigation measures, impacts on land use distribution and compatibility would be reduced to a less than significant level.

4.2.7 POPULATION

Environmental Impacts

Department of Finance data indicates an existing 1992 population of 84,238 residents in the City of Palmdale, and an estimated population of over 100,000 residents in the overall Planning Area. As indicated in Tables 4-9 and 4-10, the proposed land use plan for the revised General Plan designates approximately 49,208 acres of the Planning Area for residential development. Assuming development at the typical density for each residential land use category, the plan would allow approximately 139,205 housing units at anticipated buildout. Based on the 1992 average household size of 3.17 (Department of Finance), there would be approximately 441,280 residents at buildout of the Planning Area.

Population growth will mean an increase in the demand for public services (such as schools, libraries, and fire and police protection) and infrastructure (roads, sewers, storm drains), housing, commercial and professional services, jobs, consumer goods, and recreational facilities. The housing stock of the City will have to be increased to provide shelter for the increase in population. The proposed housing program will ensure that housing is available to meet the demand in Palmdale. This includes affordable housing to serve low-income households, special housing for elderly, handicapped and homeless persons, accessible housing for large households, female-headed households, and minorities, and properly maintained housing units. While there is adequate vacant land for residential uses, the demand for housing and the building climate determine housing construction activities in the area. The housing program establishes ways of maintaining the favorable building climate that currently exists in Palmdale.

The increase in population and housing will impact the circulation system of the Planning Area. Road extensions will be required to link new housing developments within the City and the Planning Area, especially when development occurs in previously undeveloped areas. Also, an increase in population will mean an increase in road use which will affect the existing roadway network. This will decrease the level of service at intersections that are currently operating at adequate levels of service, as well as those currently operating at inadequate levels of service, until the roadway improvements addressed in the Circulation Element are made.

Increased capacities for commercial and industrial development will increase employment growth in the Planning Area, resulting in a substantial job/housing imbalance. If commercial, industrial, and residential uses are developed as proposed in the land use plan, the Planning Area will need to attract workers from outside the Planning Area to fill the employment positions created. At employment densities of 500 square feet per employee for commercial and public facility uses and 1,250 square feet per employee for industrial uses (including commercial manufacturing, business park, and airfield or related uses), the proposed land use plan would allow for approximately 601,900 jobs at buildout. The plan provides for 139,205 housing units at typical buildout, producing a future job/housing ratio of 4.3 jobs per housing unit. The Southern California Association of Governments indicates a ratio of 1.22 jobs per unit to be an indication of relative balance. Future buildout at typical densities of the proposed land use plan would provide for an extremely job-rich situation. Because local residents would not be able to fill all of the planned positions, the area would have to draw from residents in Lancaster, Santa Clarita, and other neighboring areas. If this occurs, the Planning Area would be subject to increased commuter traffic and accompanying environmental impacts, such as air pollution. However, it should be noted that commercial and industrial growth may not reach these target amounts if market conditions weaken or businesses cannot be attracted to the City. In addition, future annexations to the City would likely occur before buildout. These new areas would be primarily designated for residential development. It is anticipated that, because of the existing housing-rich condition of the City, the transition to a job-rich condition would occur over a long period of time.

Community design will be affected by the population growth through the development of roads, commercial, residential, industrial, and park land uses. Increased development of commercial and industrial uses to accommodate the population will lead to a more urban setting that can detract from the desert environment. The proposed design guidelines will enhance and protect the natural qualities of the environment and ensure the preservation of these amenities.

Impacts on population are considered significant unless programs in the proposed General Plan and mitigation measures discussed below are implemented.

Mitigation Measures

An increase in the population and employment opportunities in an area is not adverse in its own right. Rather, it is the effects of population and employment growth which are considered to bring about negative impacts on the environment. Thus, mitigation measures for the population and employment impacts of the proposed General Plan are directed toward the reduction of impacts caused by urbanization and the provision of services and infrastructure needed to support the resident and day time population.

The increase in population brought about by new development and indirectly by the proposed land use plan will create a demand for housing, jobs, support services, commercial/retail establishments, recreational facilities, infrastructure, and public services. The increase in the resident population would mean an increase in the demand for job opportunities in the City and nearby areas. As stated in Section 4.2.8, Housing, a strategy for achieving a job/housing balance should be introduced to reduce traffic impacts, noise, air pollution, and other effects of job/housing imbalance. Future annexations to the City, outside the current Planning Area, should be encouraged for residential development to help alleviate the anticipated job-rich condition at buildout, should it appear that non-residential development is occurring at a rate to facilitate such a job-rich condition.

As discussed in Section 4.2.6, Land Use, the land use plan has designated adequate commercial and industrial areas to serve the needs of the resident population and neighboring areas. Section 4.2.10, Public Services; Section 4.2.11, Public Utilities; and Section 4.2.9, Traffic and Circulation, address the impacts of increased demand for infrastructure and public services in the Planning Area.

The General Plan contains goals, policies, and implementation programs that were established to mitigate the impacts of future development. They are guidelines and actions that will be implemented by the City to address citywide concerns. Although part of the proposed project, these goals, policies, and programs will serve as mitigation measures for the environmental impacts of development under the General Plan. Policies in the General Plan that address population issues and impacts are contained in the different elements of the General Plan. The most pertinent elements are Land Use, Circulation, Housing, Public Services, and Safety.

As appropriate, the City of Palmdale will require the implementation of measures to mitigate the population impacts of individual developments under the proposed land use plan. Even with the implementation of the proposed plan and programs, impacts on jobs/housing balance will remain significant.

4.2.8 HOUSING

Environmental Impacts

The proposed land use plan designates 49,208 acres for residential development. As can be seen in Table 4-11, the proposed land use plan has a capacity for approximately 139,205 dwelling units at buildout, assuming typical development densities. Based on existing dwelling units of 29,348 in 1992, the Planning Department estimates a total of 63,348 dwelling units by 2010, based on recent trends that indicate a housing growth rate of approximately 3,000 dwelling units per year. However, applications for building permits have fallen off considerably in the last year due to the slowdown in the economy. Thus, the housing program in the Housing Element assumes a growth rate of 2,000 units per year for the next five years.

A description of the location and characteristics of the residential land use classifications under the proposed land use plan is provided in Section 4.2.6 (Land Use Impacts). In general, areas around the City center have been proposed as single-family residential (with a maximum of 6 dwelling units per acre) with small pockets of multi-family residential areas. Areas further away from the city center are generally designated as low density residential (1 unit per acre), and equestrian residential (1 unit per 2.5 acres). Although the City has reduced allowable densities for many existing residential land uses, residential land use classifications have been designated for a majority of the Planning Area to allow or future housing growth.

The Housing Element contains a housing program to address the City's housing needs, and the preservation, impacts, and development of housing in the City. Future development of the City's housing stock may mean the potential for a wider range of housing types in the City. This would keep housing prices and rents within a competitive range. Housing prices are influenced by current land prices and the availability of vacant

residential land. Because of the large amount of land available, costs may be lower relative to surrounding communities, thus allowing a larger percentage of households to acquire housing ownership.

TABLE 4-11

PALMDALE GENERAL PLAN TARGET DWELLING UNIT CAPACITY

Land Use Category	Area (acres)	Typical Density (du/acre)	Typical Buildout Capacity (du)
Equestrian Residential	3,583	1/2.5	1,433
Low Density Residential	22,347	1	22,347
Single-Family Residential (0-2)	2,239	2	4,478
Single-Family Residential (0-3)	3,583	3	10,749
Single-Family Residential (3.1-6)	14,330	4.8	60,186
Multiple-Family Residential	2,903	12.8	37,158
Mobile Home Park	223	12.8	2,845
Total	49,208		139,205

Source: City of Palmdale Planning Department 1992.

Although the housing capacity of the proposed land use plan will allow the City to provide housing for future residents, the low densities established in the proposed land use plan may make production of affordable housing difficult. As required by state law, the City's programs in the Housing Element are expected to meet the existing needs of Palmdale residents and the regional "fair share" of housing needs for the housing program period 1989 - 1994. Subsequent updates to this element will address the City's housing needs every 5 years, as required by state law. Identified existing housing need is 2,422 affordable units and the regional fair share need is 10,388 units (as estimated by SCAG in the 1988 Regional Housing Needs Assessment). Although the

city has provided 9,325 units (90.2 percent of regional fair share needs) in the last two years, very little low income and no very low income housing is being produced to meet affordable housing needs.

In order to address the need for affordable housing, the Housing Element contains programs that encourage both the preservation of existing affordable units and the production of new affordable housing. For example, the proposed density bonus program will allow development of more affordable housing by decreasing associated land costs per individual housing units. Additionally, new development could be required to provide affordable housing or to contribute funds toward development of housing. Existing redevelopment programs, and federal housing programs would also be maintained under the proposed housing program.

In addition to addressing the issue of affordable housing, the Housing Element contains programs to address the special housing needs of its residents. Special housing for the elderly, homeless, farm workers, handicapped, and female-headed households would be encouraged as project options for developers. Additionally, the proposed housing program seeks to conserve and rehabilitate existing units to keep them safe and in good condition, and it protects existing mobilehomes and manufactured houses to keep them as an available source of affordable housing

As previously discussed in Section 4.7.2 (Population), under the proposed land use plan, the increase in nonresidential development will exceed the increase in residential development, resulting in a local labor market that may provide more jobs than can be filled by local residents. The development of commercial and industrial projects without concurrent housing stock development will create a job-rich condition in the Palmdale Planning Area. As previously noted, the plan provides for approximately 601,900 jobs at anticipated buildout and 139,205 housing units. The resulting jobs/housing ratio would be 4.3 jobs per units, significantly higher than the ideal balance ratio of 1.22 jobs per unit. At this buildout, impacts on job/housing balance would be considered significant. However, in the near term, the jobs/housing balance in the City would be expected to remain near the existing ratio of 0.76 jobs/dwelling unit. The impacts of a jobs/housing imbalance include traffic congestion, air pollution, extended travel times, fiscal consequences, and a less cohesive community. Development of non-residential uses under the proposed land use plan could also result in removal of existing residential units and the displacement of households. However, the proposed land use plan has been designed to reflect existing land uses where possible. Additionally, the city is considering designation of a "mixed use

transition" zone for areas where non-residential uses may be encroaching into existing residential area designed to protect the housing units.

The proposed circulation plan will help keep residential communities viable by providing transportation network links to business, commerce and recreation in the City Planning Area and surrounding region. The transportation improvements recommended will keep Palmdale within acceptable commuting time from major metropolitan areas like the City of Los Angeles. Thus, the circulation plan is not expected to adversely impact housing in the Planning Area.

The Public Services Element addresses the provision of infrastructure and public services to the Planning Area. While much of the area's residentially-zoned land lies in areas that are still unimproved, there are a number of parcels suitable for subdivision that are near water mains as well as electrical and gas hook-ups.

The Community Design Element for the City is intended to improve the overall quality of development, by imposing guidelines on the design of new development. While costs may rise due to requirements on architectural treatments, landscaping, utilities, walls, and grading, the cost of new housing units is expected to be of comparable value to housing in other areas of the Antelope Valley.

Impacts on housing are considered significant unless programs in the proposed General Plan and mitigation measures discussed below are implemented.

Mitigation Measures

The proposed General Plan contains goals, policies, and implementation programs that were established to mitigate the impacts of future development. They are guidelines and actions that will be implemented by the City to address citywide concerns. Although part of the proposed project, these goals, policies, and programs will serve as mitigation measures for the environmental impacts of development under the proposed General Plan. To address housing concerns in the City, the Housing Element of the proposed General Plan analyzes existing and future needs, sets goals, and establishes a housing program for the City. The program has been formulated to address the need for affordability, accessibility, and availability of housing for all residents of the

area. It is updated every 5 years to adapt to changing needs and values. The element for 1989-1994 includes the following measures:

Program H1.A: New Housing Development. Encourage the production of 10,338 new housing units between 1989 and 1994. Since 9,330 were built in Palmdale between 1989 and 1992, between 1992 and 1994 encourage the production of an additional 1,015 new single and multi-family housing units on currently vacant or underutilized land through implementation of the standards and densities designated in the Land Use Element of the General Plan. By adopting a new Land Use Element, make provision for the production of an additional 10,000 new units in the planning period 1994-1999.

Program H1.B: Density Bonus Ordinance (Proposed). In accordance with state law, adopt a density bonus program that includes developer incentives as required by California Government Code 65915. Provide a 25 percent density bonus for housing developers who make 10 percent of their units affordable to households earning 50 percent of median income or 20 percent of units affordable to households earning 60 percent of median income.

Program H1.C: Second Unit Ordinance. Develop a second unit ordinance to establish local criteria for the approval of second units constructed pursuant to California Government Code Section 65852.1-65852.2.

Program H1.D: Alternate Housing Types Ordinance. Under this existing program, the City permits the development of mobile home subdivisions in appropriate areas per Ordinance No. 422. This allows the placement of mobile homes on single-family lots. Ordinance No. 414 provides for the development of subdivisions comprised of manufactured housing or mobile homes. These housing forms are permitted in all residential zoning designations in the City.

Program H1.E: Minimum Residential Standards Ordinance. The City will adopt an ordinance to establish minimum standards for residential structures to ensure that a standard for liveability is maintained.

Program H1.F: Inclusionary Housing (Proposed). Develop an inclusionary housing program to incorporate affordable housing into the development process. For example, in a housing partnership, developers

of large housing tracts would trade affordable housing units for their entitlements to build a market rate for-sale housing project. Under such a program, the developer could be given such options as: build affordable housing in the market rate development, build affordable units on another site, or pay a fee. Developers who wanted to build more than 15 percent affordable units could apply to the City for assistance.

Program H1.G: First-time Homebuyers Program (Proposed). Assess the feasibility of developing a program to assist first-time home buyers with deferred payment secondary finance. Such loans, often called "soft seconds", could be made at low interest rates with payment deferred until income increases or until sale. Such a program may include shared appreciation mortgages (SAM). Upon sale of the assisted home, deposit the City's share of the profits from the SAM in the housing trust fund.

Program H1.H: Low and Moderate Income Housing Set-Aside. In accordance with state redevelopment law, the redevelopment agency has developed a program for the allocation of no less than 20 percent of the future tax increment revenues generated by the City's redevelopment project to the development of permanently affordable housing citywide. As permitted by law, direct funds to housing both inside and outside the City's redevelopment project areas.

Program H1.I: Single-Family Mortgage Revenue Bond Program. Issue tax-free mortgage revenue bonds to provide low interest loans for first-time home buyers. Mortgage revenue bonds reduce the mortgage interest rates for residential loans. Bond programs also reduce the amount of income a purchaser must earn to qualify for a loan. Mortgage revenue bonds are issued by the redevelopment agency.

Program H1.J: Affordable Housing Land Bank (Proposed). Using redevelopment monies and other available housing funds, acquire land to be used to build new affordable single and multi-family housing units for Palmdale residents. Land could be used to develop either rental or ownership housing.

Program H1.K: Predevelopment Loan Program (Proposed). Develop a fund to provide predevelopment loans to nonprofit agencies and resident associations to pay for financial consulting, fees, permits, inspections, and other expenses incurred in nonprofit acquisition, rehabilitation, or construction of affordable housing.

Program H1.L: Rental Housing Construction Program (Proposed). Provide assistance to developers to construct affordable rental housing developments in the City to serve low income families and seniors and households with special needs.

Program H1.M: Replacement Housing Land Bank (Proposed). Using funds from the Low and Moderate Income Housing Set-Aside of the Palmdale Redevelopment Agency, acquire land to be used to construct affordable housing to replace units demolished for publicly financed projects.

Program H1.N: Replacement Housing Construction Program (Proposed). Develop a program to finance the construction of new single and multi-family rental and ownership units to replace rental units demolished by public action. The replacement units shall be equivalent in price and unit size to the demolished units.

Program H1.O: Condominium Conversion Standards Ordinance. Adopt an ordinance to create standards and criteria for conversion of multi-family rental units to condominiums.

Program H1.Q: Housing Impact Review (Proposed). Review housing impacts of proposed city policies, programs, and actions, and prepare an assessment when adverse impacts are identified. Housing impact assessments to be required for zone changes, development fees, assessments, and amendments to the General Plan. Housing impact assessments will evaluate the effects of proposed actions on the provision and preservation of housing for low and moderate income households. The assessments will propose measures that would mitigate the identified housing impacts.

Program H2.A: Habitability Standard (Proposed). Adopt an ordinance establishing a standard of habitability for application to existing mobile home parks and multi-family and single-family housing units.

Program H2.B: Handiworker Program (Proposed). Develop a handiworker program that will provide grant-funded housing repairs for eligible elderly and very low income households in single-family dwelling units.

Program H2.C: Los Angeles County Community Development Commission Rental Rehabilitation Program. Assess the costs and benefits of participating in this program of the Community Development Commission which provides low-interest rehabilitation loans to owners of multi-family rental housing. Participate owners may raise rents to make loan payments.

Program H2.D: Multi-Family and Rental Unit Rehabilitation Program. Develop a rehabilitation loan program for single- and multi-family rental buildings. This program will require owners to agree to rent to eligible low income households and to maintain the affordability of the assisted units for a period of between 15 and 30 years in exchange for a low interest rate loan.

Program H2.E: Community Development Commission Bond-Financed Major Rehabilitation Loan Program for Single-Family Homes. Assess the suitability of this program, operated by the County of Los Angeles Community Development Commission, to provide home improvement loans to eligible lower and moderate income households in Palmdale.

Program H2.F: Mobile Home Space Rent Control. Continue to implement this existing program that imposes restrictions on increases in lease costs for mobile home parks spaces to maintain affordability of mobile home lease costs.

Program H2.G: Mobile Home Park Lease Terms Ordinance. Develop complaint procedures and enforcement mechanisms for this existing ordinance to prevent owners from circumventing rent control by refusing to offer new tenants a lease term of 12 months or less. Under existing state law, longer leases are exempt from rent control. This ordinance currently states that no owner may require any resident or prospective resident to sign a lease or rental agreement that exempts the space from local rent control.

Program H2.H: Mobile Home Park Homeownership and Rehabilitation. Develop a program to assist residents of mobile home parks occupied chiefly by low income families and seniors to purchase their parks and own them cooperatively. Provide grant funding to rehabilitate park spaces, hook-ups, and grounds to meet city habitability standards for mobile home parks. Provide city funds for predevelopment expenses and utilize state's Mobile Home Parks Resident Ownership Program as appropriate.

Program H2.J: Comprehensive Neighborhood Improvement Program. Develop a comprehensive program to improve neighborhood quality by enforcing compliance with building, safety, health, fire, law enforcement, and other regulations in rental and ownership housing. This program could utilize a coordinated team of officials from the City, Sheriff's Office, Health Department, Fire Department, and other agencies. The team would cite building owners for deficiencies and seek enforcement of all application regulations.

Program H2.K: Tenant Assistance Program (Proposed). Develop a program to provide information and assistance to residents in federally assisted units with expiring subsidies. Work closely with resident associations to facilitate preservation of at-risk units.

Program H2.L: Mortgage Revenue Bond Refinance Program. In rental housing financed with locally issued mortgage revenue bonds, develop standards and implement a program to refinance projects when rent restrictions expire in order to preserve the City's supply of affordable housing.

Program H3.A: Housing Needs Assessment. Conduct a housing needs assessment to determine the need for all types of housing assistance in the City.

Program H3.B: Community Development Block Grant Program. Apply to become an entitlement city under the federal Community Development Block Grant Program.

Program H4.B: Fair Housing Public Information Program. Cooperate with the County's designated Fair Housing Council for this area to develop a public information program on fair housing law.

Program H4.B: Fair Housing Affirmative Marketing Practices. Cooperate with the designated Fair Housing Council to ensure that developers of new housing, realtors and managers of rental housing comply with affirmative marketing practices.

Program H5.A: Senior Housing Program. Develop a program to actively facilitate the development of new affordable rental and/or ownership units for seniors through provision of a variety of incentives that could

include a predevelopment loan, expedited processing, and land write-downs. Encourage the development of one HUD Section 202 elderly housing project.

Program H5.B: Senior Housing Design Review Program. Develop a review process to ensure that units designated as senior units are accessible and meet established design guideline for such units.

Program H5.C: Senior Housing Market Survey. Cooperate with developers, community agencies, or other organizations to assess the need for senior housing in Palmdale.

Program H5.D: Develop a Dependent Housing Unit Ordinance. Under California Government Code 65852.1, develop a dependent unit ordinance to meet the needs of the City's families.

Program H5.E: Homeless Persons Facilities Designation. In compliance with state housing law, permit the development of emergency shelters and transitional housing facilities for the homeless in areas of the city designated C-3 and in areas designated R-3 with a conditional use permit.

Program H5.F: Transitional Housing Designation. In accordance with state housing law, permit the development of transitional housing to provide housing and service for formerly homeless persons in the C-3 and R-3 zones.

Program H5.G: SAVES Program. Continue to provide administrative funding to the South Antelope Valley Emergency Service Program (SAVES) which provides housing vouchers and food baskets and funds for rehabilition of the Senior Center from the City's CDBG allocation.

Program H5.H: Large Family Rental Unit Program. Develop a mechanism to encourage housing developments to provide affordable three and four bedroom rental units to meet the needs of large families.

Program H5.J: Accessibility Guidelines. Develop a single standard for meeting the multiple handicapped access requirements of California Administrative Code Title 24, and the 1991 federal Americans with Disabilities

Act. Require that all new multi-family residential developments, including those serving low income or elderly households, conform to this handicapped access standard.

Program H5.K: Public Information Program on Access (Proposed). In cooperation with an appropriate agency, develop a public information program on the guidelines of the 1991 Americans with Disabilities Act to ensure that both public and private organizations and individuals in the City of Palmdale understand the rights of disabled persons with respect to housing, transportation, public facilities, and employment.

Program H5.L: Section 8 Certificate and Voucher Program. The Housing Authority of the County of Los Angeles administers the Section 8 rental assistance program. Eligible Palmdale residents may apply to the housing authority for Section 8 certificates or vouchers.

Program H5.M: Special Needs Site Review. Conduct a site review of all proposed special needs housing developments to ensure that they are located near needed services and transportation.

Most impacts on housing would be reduced to less than significant levels with the full implementation of mitigation measures. However, impacts on job/housing balance would remain significant after mitigation.

4.2.9 TRAFFIC AND CIRCULATION

This section is based on the City of Palmdale Circulation Element prepared by DKS Associates, dated June 1992.

Proposed Roadway Network

The proposed circulation plan described in the Circulation Element has been developed to accommodate growth projected under the proposed land use plan. The proposed roadway network and circulation plan was designed with the goal of providing a blueprint for construction and maintenance of a transportation network that will accommodate growth, support economic development, allow safe and convenient access, and meet regional transportation goals. Development of the circulation plan assumes the implementation of a citywide transportation demand management program. Many roadways have been upgraded to urban major arterials and new and expanded freeways are anticipated under this plan. The proposed circulation plan also includes standard roadway widths and standards for local, collector, secondary arterial, major arterial, and regional arterial streets, provisions for turn lanes and parking, and standards for roadway capacities and level of service. In addition to policies regarding the establishment of TDM programs, the Circulation Element provides policies designed to encourage the use of non-vehicular modes of transportation, including bicycles and walking. These and other policies are described in more detail in the Circulation Element and under the Mitigation Measures heading of this section. Exhibit 4-1 illustrates the proposed future roadway network for the Planning Area.

Trip Generation

To analyze future traffic conditions, future vehicle trips were estimated based on the type and size of specific land uses. These land uses amount are based on projected buildout figures in the proposed land use plan. Table 4-12 presents the distribution of land uses for existing and buildout conditions. Vehicle trip rates for each land use are also presented, as are the resulting number of daily trips for existing and buildout conditions.

TABLE 4-12

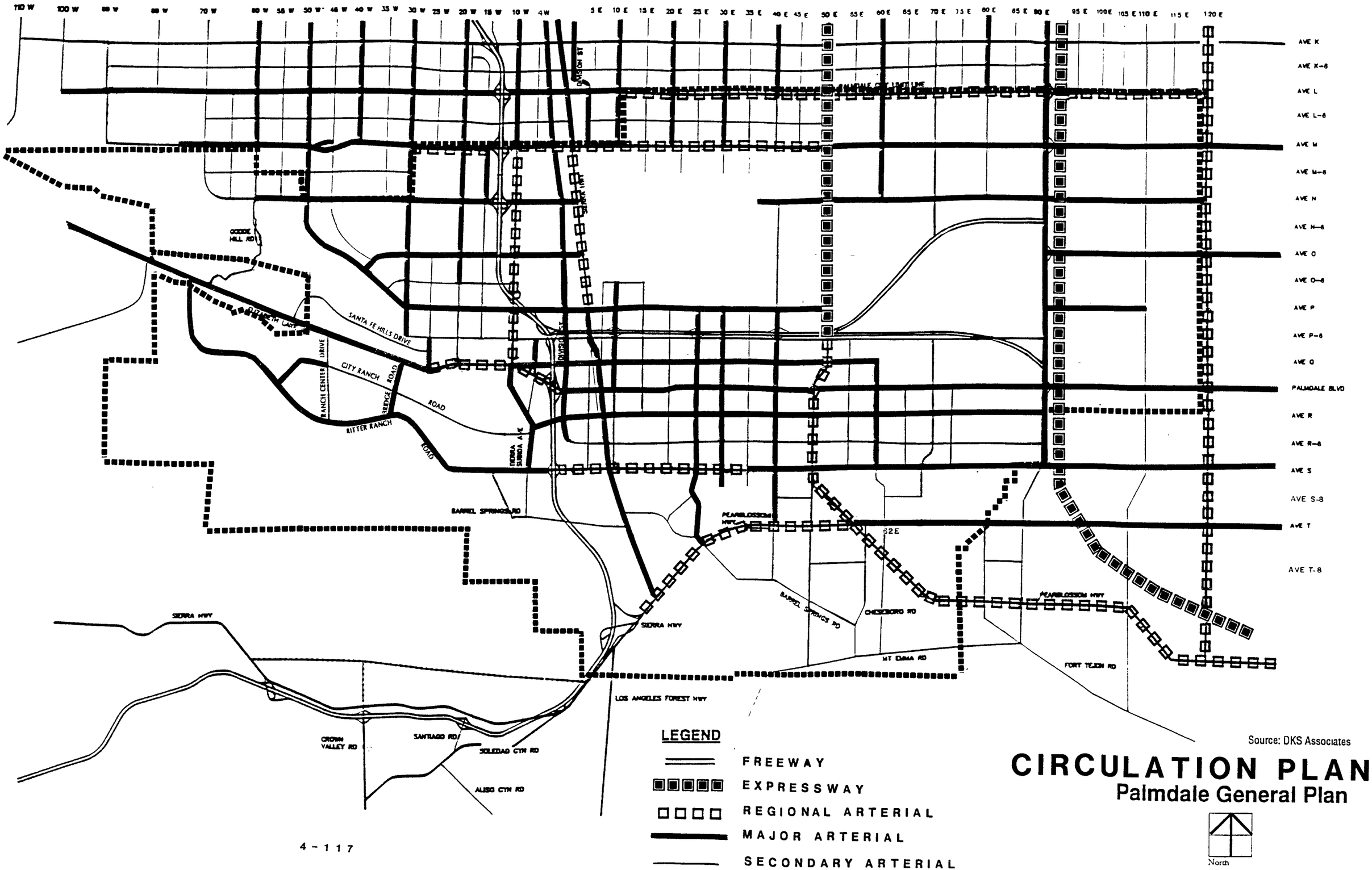
EXISTING AND BUILDOUT LAND USE TRIP GENERATION
(average daily trips)

Land Use Category	Units	Existing Units	Buildout Units	Daily Trip Rate	Existing Trips	Buildout Trips
Single-Family Res.	Dwelling Units	21,323	99,193	10.06	214,509	997,882
Multiple-Family Res.	Dwelling Units	6,055	37,158	5.98	36,191	222,205
Mobilehome	Dwelling Units	1,971	2,854	4.81	9,485	13,728
Retail	Acres	529	2,629	275.16	145,560	723,396
Office	Acres	16	486	196.00	3,214	95,256
Industrial	Acres	897.6	10,814[a]	51.80	46,496	560,165
School	Students	11,485	28,200	1.30	14,931	36,600
Medical Office	Acres	--	20	446.92	--	8,938
Public Facilities	Acres	3	94	558.00	1,764	52,452
Business Park	Acres	--	5,174	140.00	--	724,360
Commercial Manufact.	Acres	--	282	86.00	--	24,252
Recreational	Acres	677	626	3.66	2,478	2,292
Special Generators	N/A	N/A	N/A	Varies	7,860	66,500
Total					482,488	3,528,026

[a] An additional 6,167 acres of industrial is included within the Special Generator Category (airfield and related industrial)

Source: City of Palmdale Circulation Element 1992.

According to Table 4-12, the proposed land use plan would generate approximately 3.5 million vehicle trips daily at buildout of the Planning Area, based on typical land use densities. this is an increase of 631 percent, or more than 3 million trips, over existing levels. Single-family residences would generate approximately 997,882 trips per day, the largest share of trips by any single land use. This represents an increase of 783,373 trips, or 365



Source: DKS Associates

CIRCULATION PLAN
Palmdale General Plan

Exhibit 4-1

percent, over existing. Retails uses would generate 723,396 daily trips, an increase of 577,836 trips, or 397 percent over existing trips attributed to retail uses. Residential uses would account for over 28 percent of future trip generation, while retail uses would generate over 20 percent. The land uses with the new business park designation would account for another 20 percent of trips at buildout of the proposed land use plan.

Projected Roadway Traffic

Development of the Traffic Model

DKS, Associates, the City's traffic consultant, developed a computerized traffic model to assess the traffic impacts of future development under the proposed land use plan. The traffic model used TRANPLAN software. The model focuses on the Palmdale/Lancaster area, and extends from Avenue J to the north to Mt. Emma Road and Soledad Canyon Road to the south, and from 110th Street West to the west to 120th Street East to the east. This area was divided into traffic analysis zone (TAZs) to study the distribution of trips and assignment of vehicles to specific roadway segments. The results of the model runs indicated the adequacy of planned roadway widths, according to project traffic volumes, and where capacity problems are projected to occur. The model was calibrated based on an analysis of existing traffic counts on the existing roadway network. To analyze future roadway capacities and levels of service (LOS), the proposed future roadway network was used as a base.

Roadway Improvements

Several roadway improvements and changes in roadway design standards were assumed in the traffic model of future roadway conditions. The model assumes that highways and regional arterials can carry 10,000 vehicles per lane per day, and that traffic improvements to allow this, including signal coordination and progressions, would occur concurrently with development. Full roadway improvements were assumed to be in place at buildout of the proposed land use plan. At buildout, SR-14 was assumed to have four lanes in each direction through the study area. In addition, several existing major arterials were recommended to be upgraded to Regional Arterial status, including the following roadways segments:

- Avenue L between 10th Street East and 110th Street East

- Avenue M between 30th Street West and 50th Street East
- Elizabeth Lake Road between 25th Street West and Palmdale Boulevard
- Palmdale Boulevard between Elizabeth Lake Road and Division Street
- Avenue S between 35th Street East and 3800' East of 47th Street East
- Pearblossom Highway between Sierra Highway and Avenue T
- 10th Street West between Avenue M and Palmdale Boulevard
- Sierra Highway between Avenue M and Avenue P
- Sierra Highway between Pearblossom Highway and SR-14
- 47th Street East between Palmdale boulevard and Ft. Tejon Road
- Ft. Tejon Road between 47th Street East and Pearblossom Highway
- 50th Street East between the Cross Town Freeway and Palmdale Boulevard

In addition to these upgrades, other recommended regional improvements included the following:

- Upgrading of 50th Street East to an expressway designation north of Avenue P-8. An expressway has more capacity than either an arterial or a regional arterial, approaching that of a freeway. This is achieved by providing grade-separated intersections, preferential signal timing, and very limited access (one-mile or half-mile spacing).

- A new east/west freeway along the alignment of Avenue P-8, having three lanes in each direction from SR-14 to just east of 90th Street East. For purposes of this study, interchanges were assumed at SR-14, 10th Street East, 25th Street East, 40th Street East, and at the new six-lane north/south freeway. Future studies of this facility should consider additional interchange locations.

- A new north/south freeway having three lanes in each direction from SR-138 on the south to the City of Lancaster to the north. For purposes of this study, interchanges were assumed at the new six-lane east/west freeway, Palmdale Boulevard, Avenue S, and SR-138. Future studies of this facility should consider additional interchange locations.

- Expansion of SR-14 from four lanes each way to five lanes each way between Avenue L and Crown Valley Parkway.

The proposed east/west freeway is projected to carry about 75,000 vehicles per day between SR-14 and 50th Street East and about 40,000 vehicles per day further east. The proposed north-south freeway is projected to carry approximately 50,000 vehicles per day.

Along with additional freeways and designation upgrades, the consultants recommended trip reduction measures to reduce total vehicle trips throughout the Planning Area by 15 percent.

The roadway improvements noted above are based on revised street section standards that provide minimum design standards for various classifications of roadway. Exhibit 4-2 illustrates the standard street sections for regional, major, and secondary arterials, collector and local streets, industrial and commercial streets, and alleys. As indicated in Exhibit 4-2, major arterials will have a design width of 104 feet, allowing for 6 through lanes and a median, or a 114-foot width to provide for 6 through lanes, a raised median, and 8-foot bicycle lanes on each side. Secondary arterials will have widths of 84 to 92 feet and allow for 4 through lanes. Collectors will have a standard width of 64 feet, and local interior streets a width of 60 feet.

Future Levels of Service

Table 4-13 presents the results of the level of service analysis for the future roadway network at buildout of the proposed land use plan. The model includes the assumption that various trip reduction or TDM measures are adopted through the City. The TDM measures would reduce the total number of vehicle trips at peak hours by promoting public transit, ride-sharing, flexible work schedules, telecommuting, and other methods. The incorporation of this assumption reduced work-related trips by approximately 15 percent.

As indicated in Table 4-13, most roadway segments on the future modified roadway network would operate at acceptable levels. The majority of roadway segments would operate at LOS A, B, or C, assuming the capacity improvements recommended in the Circulation Element, and noted above, are made. A total of 13 roadway segments would operate at LOS D or E.

Locations expected to operate at LOS D or E at buildout of the proposed land use plan include the following:

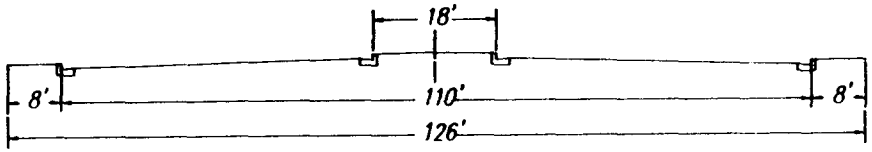
- Sierra Highway, between Avenue P and Avenue Q (LOS D)
- Sierra Highway, between Pearblossom Hwy and Antelope Valley Freeway (LOS D)
- 20th Street East, between Palmdale Blvd and Avenue S (LOS E)
- 25th Street East, between Avenue S and 4200 feet south of Avenue S (LOS E)
- Avenue M, between Antelope Valley Freeway and Sierra Highway (LOS D)

- Avenue M, between Sierra Highway and Division Street (LOS F)
- Avenue P, between 15th Street West and 10 Street West (LOS D)
- Avenue P, between 10th Street West and Sierra Highway (LOS E)
- Elizabeth Lake Road, between Bridge Road and 25th Street West (LOS E)
- Palmdale Boulevard, between Antelope Valley Freeway and Division Street (LOS D)
- Palmdale Boulevard, between Division Street and 30th Street East (LOS D)
- Avenue R-8, between 1200 feet west of 30th Street East and 1200 feet east of 35th Street East (LOS D)
- Avenue R-8, between 1800 feet east of 47th Street East and 70th Street East (LOS E)
- Barrel Springs Road, between 25th Street East and Pearblossom Highway (LOS E)

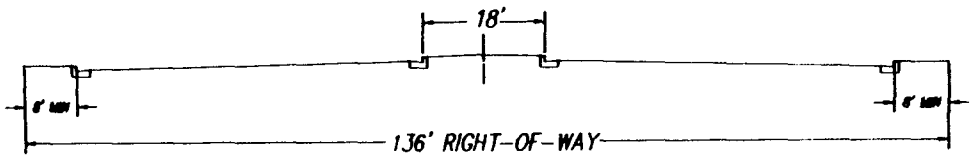
STANDARD STREET SECTIONS

A

SECTION A1. REGIONAL ARTERIAL
- 8-LANE ARTERIAL
- WITH RAISED MEDIAN

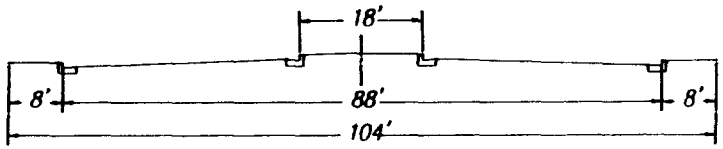


SECTION A2. REGIONAL ARTERIAL
- 8-LANE ARTERIAL
- WITH RAISED MEDIAN
- WITH BIKE LANES - DESIGNS BY SPECIAL STUDY

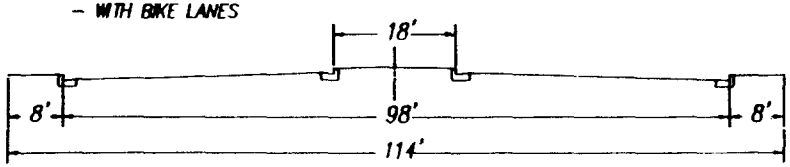


B

SECTION B1. MAJOR ARTERIAL
- 6-LANE ARTERIAL
- WITH RAISED MEDIAN

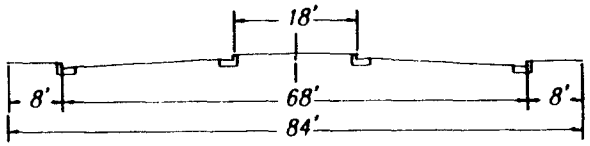


SECTION B2. MAJOR ARTERIAL
- 6-LANE ARTERIAL
- WITH RAISED MEDIAN
- WITH BIKE LANES

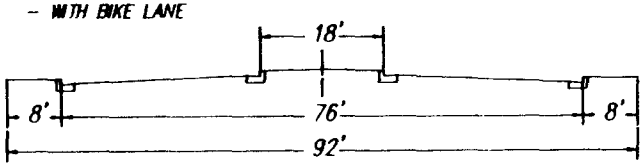


C

SECTION C1. SECONDARY ARTERIAL
- 4-LANE ARTERIAL
- WITH RAISED MEDIANS

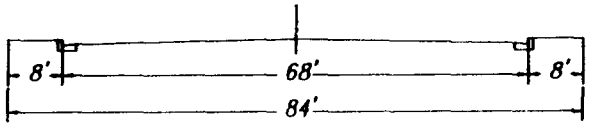


SECTION C2. SECONDARY ARTERIAL
- 4-LANE ARTERIAL
- WITH RAISED MEDIAN
- WITH BIKE LANE



D

SECTION D1. SECONDARY ARTERIAL
- 4-LANE ARTERIAL
- WITHOUT RAISED MEDIAN



SECTION D2. SECONDARY ARTERIAL
- 4-LANE ARTERIAL
- WITHOUT RAISED MEDIAN
- WITH BIKE LANE

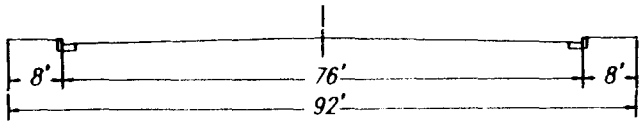
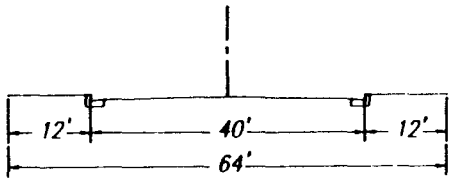


Exhibit 4-2

STANDARD STREET SECTIONS

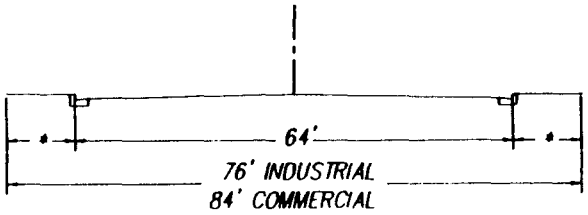
E

E. RESIDENTIAL ENTRANCE STREET FROM MAIN AND SECONDARY OR OTHER MASTER PLANNED HIGHWAYS, THROUGH COLLECTOR STREETS, STREETS ADJACENT TO SCHOOLS AND MULTIPLE FAMILY RESIDENTIAL STREETS



G

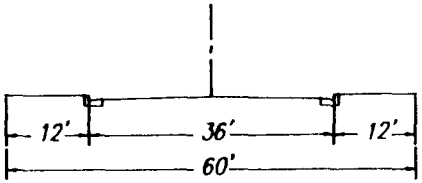
G. INDUSTRIAL AND COMMERCIAL STREET ENTRANCE, COLLECTOR OR LOOP



* INDUSTRIAL – 6'
COMMERCIAL – 10'

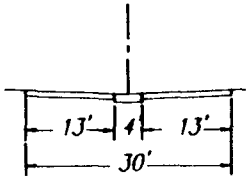
F

F1. LOCAL INTERIOR STREETS

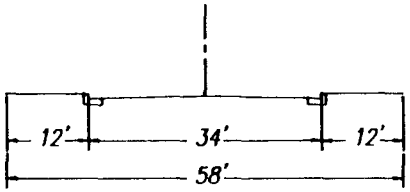


H

H. ALLEY



F2. RESIDENTIAL CUL-DE-SAC STREETS



I

I. LOCAL COMMERCIAL/INDUSTRIAL STREETS

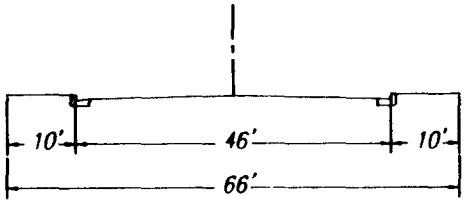


Exhibit 4-2

TABLE 4-13

Level of Service Analysis
Future Volumes on Modified General Plan Network with TDM Measures

Roadway	From/To	Striping Geometrics	Capacity	Volume	V/C	LOS
NORTH SOUTH ARTERIALS						
70th St West	Ave M/Ave M-8	4 LANES	36,000	17,000	0.47	A
	Ave M-8/Ave N	4 LANES	36,000	20,000	0.56	A
65th St West	Ave M/Ave N	4 LANES	36,000	1,000	0.028	A
60th St West	Ave M/Ave N	4 LANES	36,000	16,000	0.44	A
Godde Hill RR	60th St West/Elizabeth Lake Rd	4 LANES	36,000	23,000	0.64	B
55th St West	Ave M-8/Ave N	4 LANES	36,000	3,000	.083	A
50th St West	Ave L/Ave M	4 LANES	36,000	16,000	0.44	A
	Ave M/Ave N	4 LANES	36,000	22,000	0.61	B
45th St West	Ave N/Ave N-8	4 LANES	36,000	14,000	0.39	A
Ranch Center Dr	Eliz. Lake Rd/Ritter Ranch Rd	4 LANES	36,000	6,000	0.17	A
30th St West	Ave M/Ave N	6 LANES	54,000	26,000	0.48	A
	Ave N/Ave P	6 LANES	54,000	18,000	0.33	A
	Ave P/Ave P-8	6 LANES	54,000	11,000	0.2	A
25th St West	Ave O/Ave P	4 LANES	36,000	7,000	0.19	A
	Ave P/Ave P-8	4 LANES	36,000	15,000	0.42	A
	Ave P-8/Elizabeth Lake Rd	6 LANES	36,000	26,000	0.48	A
20th St West	Ave M/Ave N	4 LANES	36,000	18,000	0.5	A
	Ave N/Ave P	4 LANES	36,000	17,000	0.47	A
	Ave P/Elizabeth Lake Rd	4 LANES	6,000	20,000	0.56	A
15th St West	Ave M/Ave N	4 LANES	36,000	21,000	0.58	A
	Ave N/Ave P	4 LANES	36,000	12,000	0.33	A
	Ave O-8/Ave P-8	4 LANES	36,000	9,000	0.25	A
10th St West	Ave M/Ave N	8 LANES	72,000	48,000	0.67	B
	Ave N/Ave P	8 LANES	72,000	55,000	0.76	C
	Ave P/Palmdale Blvd	8 LANES	72,000	45,000	0.63	B
Tierra Subida Avenue	Palmdale Blvd/Ave R	6 LANES	54,000	24,000	0.44	A
	Ave R/Ave S	6 LANES	54,000	39,000	0.72	C
	Ave S/Barrel Springs Rd	4 LANES	24,000	11,000	0.46	A
5th St West	Ave P-8/Palmdale Blvd	6 LANES	54,000	54,000	0.48	A
	Palmdale Blvd/Tierra Subida Ave	4 LANES	36,000	22,000	0.61	B
Division St	Ave M/Ave O	6 LANES	54,000	42,000	0.78	C
	Ave O/Ave P	6 LANES	54,000	29,000	0.54	A
	Ave P/1500' N of Ave Q	6 LANES	54,000	36,000	0.67	B
	1500' N of Ave Q/Ave R	6 LANES	54,000	35,000	0.65	B
	Ave R/Ave R-8	6 LANES	54,000	15,000	0.28	A
5th St East	Ave Q/Palmdale Blvd	4 LANES	36,000	5,000	0.14	A
	Palmdale Blvd/Ave R-8	4 LANES	36,000	7,000	0.19	A
	Ave R-8/Ave S	4 LANES	36,000	6,000	0.19	A

TABLE 4-13 (continued)

Level of Service Analysis
Future Volumes on Modified General Plan Network with TDM Measures

Roadway	From/To	Striping Geometrics	Capacity	Volume	V/C	LOS	
6th St East	Sierra Hwy/Palmdale Blvd	4 LANES	36,000	6,000	0.17	A	
	Palmdale Blvd/Ave R	4 LANES	36,000	6,000	0.17	A	
Sierra Highway	Ave M/Ave P	8 LANES	72,000	52,000	0.72	C	
	Ave P/Ave Q	6 LANES	54,000	46,000	0.85	D	*
	Ave Q/Palmdale Blvd	6 LANES	54,000	25,000	0.46	A	
	Palmdale Blvd/Ave R-8	6 LANES	54,000	25,000	0.46	A	
	Ave R-8/Ave S	6 LANES	54,000	24,000	0.44	A	
	Ave S/1200' S of Ave S	6 LANES	54,000	24,000	0.44	A	
	1200' S of Ave S/3000' N of Brrl Sprngs	6 LANES	54,000	24,000	0.44	A	
	3000' N of Barrel Springs Rd/Prblssm Hwy	6 LANES	54,000	24,000	0.44	A	
	Pearblossom Hwy/Antelope Valley Fwy	8 LANES	72,000	64,000	0.89	D	*
10th St East	Ave L/Ave M	6 LANES	54,000	31,000	0.57	A	
	Ave O-8/Ave P	6 LANES	54,000	34,000	0.63	B	
	Ave P/Palmdale Blvd	6 LANES	54,000	40,000	0.74	C	
	Palmdale Blvd/Ave R-8	4 LANES	36,000	20,000	0.56	A	
	Ave R-8/Ave S	4 LANES	36,000	21,000	0.58	A	
15th St East	Ave L/Ave L-8	4 LANES	36,000	10,000	0.28	A	
	Ave L-8/Ave M	4 LANES	36,000	9,800	0.27	A	
	Ave P/Palmdale Blvd	4 LANES	36,000	14,000	0.39	A	
	Palmdale Blvd/Ave R	4 LANES	36,000	9,000	0.25	A	
20th St East	Ave L/Ave M	6 LANES	54,000	19,000	0.35	A	
	Ave P/Palmdale Blvd	4 LANES	24,000	14,000	0.58	A	
	Palmdale Blvd/Ave S	4 LANES	24,000	22,000	0.92	E	*
25th St East	Ave L/Ave M	4 LANES	36,000	4,000	0.11	A	
	Ave P/Palmdale Blvd	6 LANES	54,000	31,000	0.57	A	
	Palmdale Blvd/Ave R-8	6 LANES	54,000	29,000	0.54	A	
	Ave R-8/Ave S	6 LANES	54,000	30,000	0.56	A	
	Ave S/4200' S of Ave S	6 LANES	54,000	54,000	1.00	E	*
	4200' S of Ave S/Barrel Springs Rd	6 LANES	54,000	30,000	0.56	A	
30th St East	Ave L/Ave M	6 LANES	54,000	16,000	0.13	A	
	Ave P/Ave Q	6 LANES	54,000	23,000	0.43	A	
	Ave Q/Palmdale Blvd	6 LANES	54,000	30,000	0.56	A	
	Palmdale Blvd/1300' S of Palmdale Blvd	6 LANES	54,000	25,000	0.46	A	
	1300' S of Palmdale Blvd/Ave R	6 LANES	54,000	25,000	0.52	A	
	Ave R/1000' S of Ave R	6 LANES	54,000	28,000	0.52	A	
	1000' S of Ave R/600' N of Ave R-8	6 LANES	54,000	28,000	0.52	A	
	600 N of Ave R-8/Ave R-8	6 LANES	54,000	28,000	0.52	A	
	Ave R-8/Ave S	6 LANES	54,000	8,000	0.52	A	
	Ave S/1600' S of Ave S	6 LANES	54,000	———	0	N/A	

Level of Service Analysis

Future Volumes on Modified General Plan Network with TDM Measures

TABLE 4-13 (continued)

Roadway	From/To	Striping Geometrics	Capacity	Volume	V/C	LOS
35th St East	Ave L/Ave M	4 LANES	36,000	5,000	0.14	A
	Ave P/Ave Q	4 LANES	36,000	6,000	0.17	A
	Ave Q/Palmdale Blvd	4 LANES	36,000	23,000	0.64	B
	Palmdale Blvd/1200' N of Ave R	4 LANES	36,000	23,000	0.64	B
	1200 N of Ave R/Ave R	4 LANES	36,000	23,000	0.64	B
	Ave R/Ave S	4 LANES	36,000	9,000	0.25	A
	Ave S/1600' S of Ave S	4 LANES	36,000	10,000	0.28	A
40th St East	Ave L/Ave M	4 LANES	36,000	15,000	0.42	A
	Ave N/Ave P	4 LANES	36,000	17,000	0.47	A
	Ave P/Palmdale Blvd	6 LANES	54,000	32,000	0.59	A
	Palmdale Blvd/Ave S	6 LANES	54,000	29,000	0.54	A
	Ave S/Pearblossom Hwy	6 LANES	54,000	36,000	0.67	B
	Pearblossom Hwy/Barrel Springs Rd	4 LANES	36,000	17,000	0.47	C
45th St East	Ave L/Ave M	4 LANES	36,000	4,000	0.11	A
47th St East	Palmdale Blvd/Ave S	8 LANES	72,000	50,000	0.69	B
	Ave S/Fort Tejon Rd	8 LANES	72,000	35,000	0.49	A
	Fort Tejon Rd/Pearblossom Hwy	6 LANES	36,000	22,000	0.41	A
	Pearblossom Hwy/Barrel Springs Rd	4 LANES	36,000	2,000	0.05	A
Fort Tejon Rd	47th St E/Pearblossom Hwy	8 LANES	72,000	13,000	0.18	A
50th St East	Ave L/Ave M	8 LANES	136,000	58,000	0.43	A
	Ave M/Ave P	8 LANES	136,000	68,000	0.5	A
	Ave P/Crosstown Fwy	8 LANES	136,000	54,000	0.4	A
	Crosstown Fwy/Palmdale Blvd	8 LANES	80,000	61,000	0.76	C
55th St East	Ave Q/Ave S	4 LANES	36,000	12,000	0.33	A
60th St East	Ave L/Ave N	6 LANES	54,000	13,000	0.25	A
	Ave Q/Ave R	6 LANES	54,000	43,000	0.8	C
	Ave R/Ave S	6 LANES	54,000	23,000	0.43	A
62nd St East	Ave S/Ave T	6 LANES	54,000	16,000	0.3	A
	Ave T/Mt Emma Rd	4 LANES	36,000	4,000	0.11	A
70th St East	Ave L/Ave N	4 LANES	36,000	11,000	0.31	A
	Ave P-8/Ave R	4 LANES	36,000	15,000	0.42	A
	Ave R/Ave S 8	4 LANES	36,000	20,000	0.56	A
80th St East	Ave L/Ave N	4 LANES	36,000	12,000	0.33	A
90th St East	Ave L/Ave N	6 LANES	54,000	31,000	0.57	A
	Ave N/Palmdale Blvd	6 LANES	54,000	42,000	0.78	C
	Palmdale Blvd/Ave S	6 LANES	54,000	31,000	0.57	A
	Ave S/Ave T	4 LANES	36,000	16,000	0.44	A
	Ave T/S.R. 138	4 LANES	36,000	5,000	0.14	A
	S.R. 138/Fort Tejon Rd	4 LANES	36,000	1,000	0.03	A
110th St East	Ave L/Ave N	4 LANES	36,000	7,000	0.19	A
	Ave N/Ave P	4 LANES	36,000	14,000	0.39	A
	Ave P/Ave S	4 LANES	36,000	13,000	0.36	A
	Ave S/S.R. 138	4 LANES	36,000	3,000	0.08	A
	[illegible]	[illegible]	36,[illegible]	2,[illegible]	[illegible]06	[illegible]

TABLE 4-13 (continued)

Level of Service Analysis
Future Volumes on Modified General Plan Network with TDM Measures

Roadway	From/To	Striping Geometrics	Capacity	Volume	V/C	LOS	
STATE ROUTE 14	Ave L/Ave N	10 LANES	200,000	132,000	0.66	B	
	Ave N/Ave P	10 LANES	200,000	146,000	0.73	C	
	Ave P/Palmdale Blvd	10 LANES	200,000	153,000	0.77	C	
	Palmdale Blvd/Ave S	8 LANES	160,000	88,000	0.55	A	
	Ave S/Los Angeles Forest Hwy	8 LANES	160,000	82,000	0.51	A	
	Los Angeles Forest Hwy	8 LANES	160,000	113,000	0.71	C	
Bypass Fwy	Ave L/Ave M	6 LANES	120,000	65,000	0.54	A	
	Ave M/Ave O	6 LANES	120,000	71,000	0.59	A	
	Ave O/Palmdale Blvd	6 LANES	120,000	38,000	0.32	A	
Crosstown Fwy	Antelope Valley Fwy/10th St E	6 LANES	120,000	70,000	0.58	A	
	10th St E/25th St E	6 LANES	120,000	71,000	0.59	A	
	25th St E/40th St E	6 LANES	120,000	68,000	0.57	A	
	40th St E/50th St E	6 LANES	120,000	74,000	0.62	B	
	50th St E/Bypass Fwy	6 LANES	120,000	38,000	0.32	A	
Airport Fwy	Crosstown Fwy/70th St E	6 LANES	120,000	47,000	0.39	A	
	70th St E/Bypass Fwy	6 LANES	120,000	39,000	0.33	A	
EAST WEST ARTERIALS							
Avenue L	10th St E/20th St E	8 LANES	80,000	55,000	0.69	B	
	20th St E/40th St E	8 LANES	80,000	52,000	0.65	B	
	40th St E/50th St E	8 LANES	80,000	45,000	0.56	A	
	50th St E/90th St E	8 LANES	80,000	27,000	0.34	A	
	90th St E/110th St E	8 LANES	72,000	31,000	0.43	A	
Avenue L-8	10th St E/20th St E	4 LANES	36,000	16,000	0.44	B	
	20th St E/50th St E	4 LANES	36,000	11,000	0.31	A	
Avenue M	90th St W/75th St W	4 LANES	36,000	6,200	0.17	A	
	75th St W/60th St W	6 LANES	54,000	13,000	0.24	A	
	60th St W/30th St W	6 LANES	54,000	38,000	0.7	B	
	30th St W/15th St W	8 LANES	72,000	51,000	0.71	C	
	15th St W/Antelope Valley Fwy	8 LANES	72,000	57,000	0.79	C	
	Antelope Valley Fwy/Sierra Hwy	8 LANES	72,000	61,000	0.85	D	*
	Sierra Hwy/Division St	8 LANES	72,000	83,000	1.15	F	*
	Division St/10th St E	8 LANES	72,000	54,000	0.75	C	
	10th St E/15th St E	8 LANES	72,000	55,000	0.76	C	
	15th St E/50th St E	8 LANES	72,000	49,000	0.68	B	
	50th St E/90th St E	6 LANES	54,000	20,000	0.37	A	
	90th St E/110th St E	6 LANES	54,000	10,000	0.19	A	
Avenue M-8	70th St W/55th St W	4 LANES	36,000	14,000	0.39	A	
	55th St W/45th St W	4 LANES	36,000	7,500	0.21	A	
	45th St W/30th St W	4 LANES	36,000	7,000	0.19	A	

Level of Service Analysis
Future Volumes on Modified General Plan Network with TDM Measures

TABLE 4-13 (continued)

Roadway	From/To	Striping Geometrics	Capacity	Volume	V/C	LOS	
Avenue N	70th St W/60th St W	4 LANES	36,000	21,000	0.58	A	
	60th St W/25th St W	6 LANES	54,000	40,000	0.74	C	
	25th St W/Antelope Valley Fwy	6 LANES	54,000	40,000	0.74	C	
	Antelope Valley Fwy/10th St W	6 LANES	54,000	38,000	0.7	B	
	10th St W/Sierra Hwy	6 LANES	54,000	20,000	0.37	A	
	2000' W of 40th St E/90th St E	6 LANES	54,000	23,000	0.43	A	
	90th St E/120th St E	6 LANES	54,000	13,000	0.24	A	
Avenue N-8	Rancho Vista Blvd/30th St W	6 LANES	54,000	21,000	0.39	A	
	10th St W/Sierra Hwy	4 LANES	36,000	7,000	0.19	A	
Avenue O	Rancho Vista Blvd/30th St W	6 LANES	54,000	21,200	0.39	A	
	30th St W/10th St W	6 LANES	54,000	35,000	0.65	B	
	10th St W/Sierra Hwy	6 LANES	54,000	25,000	0.46	A	
	90th St E/120th St E	6 LANES	54,000	17,000	0.31	A	
Avenue O 8	Rancho Vista Blvd/10th St W	4 LANES	36,000	14,000	0.39	A	
Rancho Vista Blvd	50th St W/Towncenter Dr	6 LANES	54,000	32,000	0.59	A	
	Towncenter Dr/30th St W	6 LANES	54,000	40,000	0.74	C	
Avenue P	30th St W/15th St W	6 LANES	54,000	39,000	0.72	C	
	15th St W/10th St W	6 LANES	54,000	44,000	0.81	D	*
	10th St W/Sierra Hwy	6 LANES	54,000	50,000	0.93	E	*
	Sierra Hwy/8th St E	6 LANES	54,000	36,000	0.67	B	
	8th St E/20th St E	6 LANES	54,000	39,000	0.72	C	
	20th St E/30th St E	6 LANES	54,000	37,000	0.69	B	
	30th St E/50th St E	6 LANES	54,000	29,000	0.54	A	
	90th St E/110th St E	6 LANES	54,000	33,000	0.61	B	
Avenue P-8	30th St W/25th St W	4 LANES	36,000	12,000	0.33	A	
	25th St W/15th St W	4 LANES	36,000	20,000	0.56	A	
	15th St W/SR 14	4 LANES	36,000	20,000	0.56	A	
	SR 14/3rd St E	4 LANES	36,000	17,000	0.47	A	
	3rd St E/Sierra Hwy	4 LANES	36,000	17,000	0.47	A	
	Sierra Hwy/10th St E	4 LANES	36,000	13,000	0.36	A	
	10th St E/40th St E	4 LANES	36,000	18,000	0.5	A	
	40th St E/50th St E	4 LANES	36,000	5,000	0.14	A	
	50th St E/90th St E	4 LANES	36,000	10,000	0.28	A	
Avenue Q	Palmdale Blvd/Division St	6 LANES	54,000	39,000	0.72	C	
	Division St/6th St E	6 LANES	54,000	36,000	0.67	B	
	6th St E/Sierra Hwy	6 LANES	54,000	38,000	0.7	B	
	Sierra Hwy/20th St E	6 LANES	54,000	38,000	0.7	B	
	20th St E/40th St E	6 LANES	54,000	40,000	0.74	C	
	40th St E/60th St E	6 LANES	54,000	42,000	0.78	C	
Santa Fe Hills Dr	Elizabeth Lake Rd/25th St W	4 LANES	36,000	15,000	0.42	A	

Level of Service Analysis
Future Volumes on Modified General Plan Network with TDM Measures

TABLE 4-13 (continued)

Roadway	From/To	Striping Geometrics	Capacity	Volume	V/C	LOS	
Elizabeth Lake Rd	Godde Hill Rd/Bridge Rd	4 LANES	36,000	18,000	0.5	A	
	Bridge Rd/25th St W	6 LANES	54,000	53,000	0.98	E	*
	25th St W/Foxholm Dr	8 LANES	72,000	50,000	0.69	B	
	Foxholm Dr/Palmdale Blvd	8 LANES	72,000	55,000	0.76	C	
Palmdale Blvd	Elizabeth Lake Rd/Antelope Valley Fwy	8 LANES	72,000	49,000	0.68	B	
	Antelope Valley Fwy/Division St	8 LANES	72,000	59,000	0.82	D	*
	Division St/30th St E	6 LANES	54,000	48,000	0.89	D	*
	30th St E/47th St E	6 LANES	54,000	36,000	0.67	B	
	47th St E/70th St E	6 LANES	54,000	30,000	0.56	A	
	70th St E'90th St E	6 LANES	54,000	20,000	0.37	A	
	90th St E/120th St E	6 LANES	54,000	26,000	0.48	A	
City Ranch Rd	Ritter Ranch Rd/Ranch Center Dr	2 LANES	18,000	7,000	0.39	A	
	Ranch Center Dr/Bridge Rd	4 LANES	36,000	25,000	0.69	B	
	Bridge Rd/Tierra Subida Ave	4 LANES	36,000	11,000	0.31	A	
Avenue R	Tierra Subida Ave/Division St	6 LANES	54,000	40,000	0.74	C	
	Division St/6th St E	6 LANES	54,000	39,000	0.72	C	
	6th St E/25th St E	6 LANES	54,000	38,000	0.7	B	
	25th St E/30th St E	6 LANES	54,000	33,000	0.61	B	
	30th St E/47th St E	6 LANES	54,000	38,000	0.7	B	
	47th St E/60th St E	6 LANES	54,000	34,000	0.63	B	
	60th St E/70th St E	6 LANES	54,000	8,000	0.15	A	
	70th St E/90th St E	6 LANES	54,000	18,000	0.33	A	
Avenue R-8	Division St/6th St E	4 LANES	36,000	26,000	0.72	C	
	6th St E/10th St E	4 LANES	36,000	26,000	0.72	C	
	10th St E/25th St E	4 LANES	36,000	27,000	0.75	C	
	25th St E/1200' W of 30th St E	4 LANES	36,000	23,000	0.64	B	
	1200' W of 30th St E/1200' E of 35th St E	4 LANES	36,000	29,000	0.81	D	*
	1200' E of 35th St E/40th St E	4 LANES	36,000	26,000	0.72	C	
	40th St E/1800' E of 47th St E	4 LANES	36,000	23,000	0.64	B	
	1800' E of 47th St E/70th St E	4 LANES	36,000	34,000	0.94	E	*
	70th St E/90th St E	4 LANES	36,000	19,000	0.53	A	
Ritter Ranch Rd	Elizabeth Lake Rd/City Ranch Rd	4 LANES	36,000	14,000	0.39	A	
	City Ranch Rd/Ranch Center Dr	4 LANES	36,000	14,000	0.39	A	
	Ranch Center Dr/Bridge Rd	6 LANES	54,000	25,000	0.46	A	

TABLE 4-13 (continued)

Level of Service Analysis
Future Volumes on Modified General Plan Network with TDM Measures

Roadway	From/To	Striping Geometrics	Capacity	Volume	V/C	LOS	
Avenue S	Bridge Rd/Tierra Subida Ave	6 LANES	54,000	43,000	0.8	C	
	Tierra Subida Ave/Antelope Valley Fwy	6 LANES	54,000	30,000	0.56	A	
	Antelope Valley Fwy/Sierra Hwy	8 LANES	72,000	32,000	0.44	A	
	Sierra Hwy/10th St E	8 LANES	72,000	49,000	0.68	B	
	10th St E/20th St E	8 LANES	72,000	41,000	0.57	A	
	20th St E/25th St E	8 LANES	72,000	31,000	0.43	A	
	25th St E/35th St E	8 LANES	72,000	46,000	0.64	B	
	35th St E/47th St E	8 LANES	72,000	36,000	0.5	A	
	47th St E/3800' E of 47th St E	8 LANES	72,000	23,000	0.32	A	
	3800' E of 47th St E/60th St E	6 LANES	54,000	22,000	0.41	A	
	60th St E/70th St E	6 LANES	54,000	16,000	0.3	A	
	70th St E/90th St E	6 LANES	54,000	18,000	0.33	A	
	90th St E/110th St E	6 LANES	54,000	30,000	0.56	A	
Avenue S-8	45th St E/Ft Tejon Rd	4 LANES	36,000	6,700	0.19	A	
Pearblossom Hwy	Sierra Hwy/Barrel Springs Rd	8 LANES	80,000	52,000	0.65	B	
	Barrel Springs Rd/40th St E	8 LANES	80,000	54,000	0.68	B	
	40th St E/47th St E	8 LANES	80,000	48,000	0.6	A	
	47th St E/Ave T	8 LANES	80,000	33,000	0.41	A	
Avenue T	Pearblossom Hwy/90th St E	6 LANES	54,000	34,000	0.63	B	
	90th St E/120th St E	6 LANES	54,000	16,000	0.3	A	
Barrel Springs Rd	Tierra Subida Ave/Sierra Hwy	6 LANES	36,000	12,000	0.33	A	
	Sierra Hwy/West of 25th St E	6 LANES	36,000	19,000	0.53	A	
	West of 25th St E/25th St E	6 LANES	36,000	19,000	0.53	A	
	25th St E/Pearblossom Hwy	6 LANES	36,000	33,000	0.92	E	*
	Pearblossom Hwy/40th St E	6 LANES	36,000	20,000	0.56	A	
	40th St E/Cheseboro Rd	6 LANES	36,000	4,000	0.11	A	
Old Harold Rd	25th St E/Barrel Springs Rd	4 LANES	36,000	12,000	0.33	A	
S.R. 138	Ave T/90th St E	6 LANES	60,000	12,000	0.2	A	
	90th St E/120th St E	6 LANES	60,000	1,000	0.02	A	

Public Transit Services

The projected population growth in the Planning Area will increase the demand for public transit services within the City and neighboring communities. Additional bus routes, vanpools, and paratransit services be provided according to the policies of the Circulation Element. Commercial air service at the proposed regional airport is anticipated to be economically viable. Bicycle routes, equestrian trails, and truck routes would be increased, according to city policies, to serve future users.

Significance of Impacts

Thresholds for the determination of significant traffic impacts used during the environmental review of individual projects includes:

- Traffic generation by a project will be considered significant if it will result in an intersection or roadway segment operating beyond LOS D.
- Traffic generated by a project will be considered significant if it causes an increase in traffic volumes at an intersection or roadway segment which is already operating at beyond LOS D.

According to Policy C1.4.1 of the Circulation Element, the City will "strive to maintain a level of service C or better to the extent practical," recognizing that LOS D may be acceptable during peak periods. Policy C1.4.2 indicates that new developments will be required to maintain the existing level of service or LOS C, whichever is less, at roadways affected by the project. Using LOS C, or the existing LOS (not less than LOS D) as a measure of significance, buildout of the proposed land use plan on the future roadway network would result in significant traffic impacts at the following 11 roadway segments:

- Sierra Highway, between Avenue P and Avenue Q
- 20th Street East, between Palmdale Blvd and Avenue S
- 25th Street East, between Avenue S and 4200 feet south of Avenue S
- Avenue M, between Antelope Valley Freeway and Sierra Highway
- Avenue M, between Sierra Highway and Division Street
- Avenue P, between 15th Street West and 10 Street West

- Avenue P, between 10th Street West and Sierra Highway
- Elizabeth Lake Road, between Bridge Road and 25th Street West
- Avenue R-8, between 1800 feet east of 47th Street East and 70th Street East
- Barrel Springs Road, between 25th Street East and Pearblossom Highway
- Avenue R-8, between 1200 feet west of 30th Street East and 1200 feet east of 35th Street East

Mitigation Measures

The General Plan contains goals, policies, and implementation programs that were established to mitigate the impacts of future development. They are guidelines and actions that will be implemented by the City to address citywide concerns. Although part of the proposed project, these goals, policies, and programs will serve as mitigation measures for the environmental impacts of development under the General Plan. Policies and implementation programs contained in the Circulation Element would mitigate traffic impacts associated with buildout. These programs and policies are described below:

- **Objective C1.1:** Adopt and implement a street and highway plan designed to meet existing and future circulation needs.

- **Policy C1.1.1:** Designate roadways within the Planning Areas as local, collector, secondary arterial, major arterial, and regional arterial streets, as shown on the Circulation Plan Map, and adopt standards for right-of-way and design of these streets which will ensure appropriate capacity and performance of each roadway.

- **Policy C1.1.2:** Cooperate with Caltrans and other affected jurisdictions to establish and adopt standards for intra-regional expressways.

- **Policy C1.1.3:** Develop and maintain a computer traffic model based upon the designated network, and assess existing and projected levels of services on streets within the network in marking land use decisions and formulating the Land Use Plan.

- **Policy C1.1.4:** Periodically monitor levels of service within the existing street network to identify deficient street segments and intersections, and develop programs to improve service levels where needed.

- **Policy C.1.1.5:** Improve the existing street network based upon the adopted Circulation Plan, through implementation of the Capital Improvement Program and through requirements placed upon new development approvals.

- **Policy C1.1.6:** Design the Circulation Plan Map so as to protect existing neighborhoods and/or significant environmental resources, wherever feasible.

- **Policy C1.1.7:** Ensure that right-of-way is reserved wherever possible to implement the adopted Circulation Plan.

- **Policy C1.1.8:** Evaluate all land use decisions to ensure consistency with the Circulation Plan.

- **Policy C1.1.9:** Ensure that the cumulative and regional impacts of new development on the circulation system are mitigated to the extent feasible, concurrent with development. Concurrent shall mean that required facilities are installed as needed during various stages of development.

- **Objective C.1.2:** Maintain and expand the arterial and regional roadway system to serve existing and future circulation needs.

- **Policy C1.2.1:** Provide adequate system capacity and efficiency through exclusive turn lane additions at arterial intersections and other significant locations.

- **Policy C1.2.2:** Assure safe and efficient arterial operations through careful control of access, signal spacing, median placement, and overall street and development design.

- **Policy C1.2.3:** Protect and increase the capacity of arterial streets through the following measures:

  a: No new direct residential driveway access will be permitted onto regional, major, and secondary arterials or highways, except where no other feasible access is available.

  b: For residential development, full intersections will generally be permitted at no less than one quarter mile spacing along arterial streets. Where it is determined by the City Traffic Engineer that community-wide circulation will not be negatively impacted, full intersection (non-signalized) may be permitted at approximately one-eighth mile spacing.

  c: Except as specified in Policy C1.2.3.b, right turn only access will typically be permitted at approximately one-eighth mile spacing in residential developments, unless no other feasible access is available. Additional right-of-way may be required on arterials for right turn lanes onto local and collector streets, and significant private driveways.

  d: On-street parking will be prohibited on arterial roadways, unless otherwise approved by the City Traffic Engineer.

e: New arterial streets, and extensions of existing arterial streets, will be designed so as to eliminate jogs and discontinuities and facilitate regional traffic flow.

f: All major and regional arterials should be constructed with medians.

- **Policy C1.2.4:** Promote development of regional arterial links within the community where needed to serve existing and future needs, including but not limited to the following:

  a: Promote development of grade separations at railroad tracks, in particular, at Palmdale Boulevard.

  b: Coordinate with Caltrans and other affected agencies to expedite rerouting of Highway 138 and widening of Highway 14.

- **Objective C1.3:** Establish a system of local and collector streets which serve residential neighborhoods while protecting them from intrusion of through traffic flow.

- **Policy C1.3.1:** Promote development of local street patterns which create and unify neighborhoods, rather than divide them, through the following means:

  a: Local street patterns should provide access between subdivisions within a neighborhood, with the exception of through traffic which should be directed onto major and secondary arterials.

  b: The local street system should be logical and understandable for the user. Creation of circuitous and confusing travel paths between internal neighborhood areas and adjacent arterials should be avoided.

  c: The street system should be designed to avoid creating local streets which will ultimately function as collectors. A local street may be determined to function as a collector street when it is or will be used to collect traffic from local streets and convey it to an arterial street. This function of collecting traffic may be due to the street's length, alignment, design or lack of other streets which may be used to convey traffic to nearby arterials. In general, local streets will be discouraged from extending more than one-half mile so as to avoid serving this function.

  d: Direct residential driveway access onto collectors, or onto local streets which function as collectors, is discouraged.

  e: Local street design should provide efficient connection to the arterial highway system while discouraging excessive speeds and volumes within neighborhoods.

  f: Maximum cul-de-sac length should be 700 feet. "Dog-leg" cul-de-sacs with one or more turns between the bulb and the outlet should be avoided.

g: To discourage excessive speed and through traffic, street width should not exceed that required for the level of use; right-of-way and pavement widths on local streets may be reduced when it can be demonstrated that such reduction will not negatively impact internal and external circulation. Where such reductions are proposed, the City Traffic Engineer shall make appropriate recommendations to the Planning Commission during review of the tentative map.

- **Objective C1.4:** Adopt policies and standards for street design and construction which promote safety, convenience, and efficiency.

- **Policy C1.4.1:** Strive to maintain a Level of Service (LOS) C or better to the extent practical; in some circumstances, a LOS D may be acceptable for a short duration during peak periods.

- **Policy C1.4.2:** Ensure that approvals of new development are correlated with any roadway improvements that would be necessary to maintain the existing level of service, or LOS C, whichever is less, and other performance characteristics applicable to the affected roadways. Development shall not be authorized until measures are in place to construct any necessary improvements; these measures may include, but not be limited to, payment of traffic impact fees or construction of street improvements as required in the conditions of approval.

- **Policy C1.4.3:** Establish street design standards which provide the capacities that are needed to adequately serve the projected travel demand.

- **Policy C1.4.4:** Promote safe circulation and emergency access through the following means:

  a: Require a minimum 26-foot wide paved access from an improved public street to all developments. Individual single family residences (not associated with a tract map) are excluded from this requirement except as deemed necessary by the Los Angeles County Fire Protection District. Access roads shall be increased to 28 feet in width within 200 feet of an intersection.

  b: Two points of ingress and egress should be provided to every subdivision or phase thereof. Exceptions may be granted for small subdivisions where physical constraints make it difficult or impossible to provide a second access point.

  c: Medians constructed in arterial streets should be provided with decorative paved crossover points for emergency vehicles, where deemed necessary by the Fire Department.

  d: Street naming and numbering should consider ease of use for dispatch of emergency services.

e: The street system should function safely and effectively, without the subsequent need for excessive traffic control devices.

- **Policy C1.4.5:** Locate and design intersections so as to promote safe and efficient circulation, through the following measures:

  a: Local to local street intersection should be spaced at least 150 feet apart (from centerline to centerline).

  b: Intersections, including knuckles, should generally be perpendicular. Public streets should intersect at a 90 degree angle, plus or minus five degrees. Knuckles should be constructed at a 90 degree angle, plus or minus 10 degrees.

  c. Excessive grade variations, curves or other features which might impair sight distance at intersections shall be avoided.

  d: Local to collector street intersections should be spaced no less than 300 feet apart, where necessary to provide adequate queuing room for left turn movements onto the collector street. Where left turn movements onto the collector street are not needed, this spacing requirement may be reduced to 150 feet.

  e: On local to local intersections, four-way intersections should be avoided.

  f: For intersections of collector or larger streets, four-way intersections are preferred over offset or "T" intersections.

- **Policy C1.4.6:** Adopt standards for use of private streets, where appropriate; private streets, other than driveways and alleyways typically associated with multi-family development, should be constructed to city standards for public rights-of-way, and should be used only for gated communities.

- **Objective C1.5:** Identify and mitigate existing areas of deficiency within the street system in the Planning Area.

- **Policy C1.5.1:** Develop parking and traffic plans for those neighborhoods which are adversely impacted by parking and traffic.

- **Policy C1.5.2:** Periodically monitor levels of service, traffic accident patterns, and physical conditions of the existing street system, and upgrade roadways as needed through the Capital Improvement Program.

- **Objective C1.6:** Ensure that the City street system is adequately maintained, to promote safety and increase the useful life of these facilities.

- **Policy C1.6.1:** Continue a pro-active program of street maintenance for all city streets; maintenance levels and schedules should consider long-term costs.

- **Policy C1.6.2:** Require assurance of long-term maintenance for all private streets constructed within the City.

- **Objective C1.7:** Ensure adequate access within the Planning Area for trucks, while protecting incompatible uses from through truck traffic.

- **Policy C1.7.1:** Review periodically, and update as necessary, city code provisions concerning truck routes and enforcement.

- **Policy C1.7.2:** To the extent feasible, route through truck traffic around existing and future residential neighborhoods.

- **Policy C1.7.3:** Designate truck routes which will serve commercial/industrial areas while minimizing adverse impacts of heavy truck traffic on these uses.

- **Objective C1.8:** Participate in multi-jurisdictional efforts to upgrade and expand the regional road network.

- **Policy C1.8.1:** Cooperate with other agencies and jurisdictions, including Caltrans, Los Angeles County, and adjacent cities, to evaluate and propose solutions to regional transportation issues relating to the City of Palmdale.

- **Policy C1.8.2:** Coordinate with other jurisdictions to integrate circulation networks.

- **Policy C1.8.3:** Support local, regional, state, and federal agencies in identifying and implementing funding alternatives for the City's transportation systems.

- **Objectives C2.1:** Encourage development and implementation of a variety of measures to reduce trips and vehicle miles travelled by existing and future residents and workers within the Planning Area.

- **Policy C2.1.1:** Require Transportation Demand Management Plans from major employers, as defined by the Air Quality Management District and the Congestion Management Plan.

- **Policy C2.1.2:** Promote the use of ridesharing by providing safe and convenient park-and-ride facilities, accessible to mass transit facilities where available, and by providing public information programs for commuters.

- **Policy C2.1.3:** Require residential developments to contribute towards city programs to reduce vehicle trips.

- **Policy C2.1.4:** Provide incentives for trip reduction measures.

- **Policy C2.1.5:** Ensure compliance with the County's Congestion Management Plan.

- **Policy C2.1.6:** Promote alterative means of trip reduction, including telecommuting.

- **Objective C2.2:** Increase the public transit opportunities available to Palmdale residents in order to reduce traffic impacts on streets and highways and provide travel alternatives.

- **Policy C2.2.1:** Promote public transit operations within the Planning Area, and work with transit operators to coordinate schedules, services, service routes, and fares.

- **Policy C2.2.2:** Promote public transit by facilitating dedication of access routes and construction of safe and convenient stops with sufficient parking.

- **Policy C2.2.3:** Encourage location of bikeways and storage areas which are integrated with public transit facilities.

- **Policy C2.2.4:** Encourage development of regional rail transit serving the Palmdale area.

- **Policy C2.2.5:** Require provision of bus turnouts for new development, where deemed to be appropriate in consultation with the transit authority.

- **Policy C2.2.6:** Establish a regional transportation center within the City, conveniently located to maximize access to downtown and major commercial centers, which will accommodate a variety of public transportation uses including rail, bus, and shuttle service.

- **Objective C3.1:** Minimize the need for short service-oriented vehicle trips through land use and design strategies.

- **Policy C3.1.1:** Schools, parks, and neighborhood commercial uses should be located within convenient walking distance to residential developments.

- **Policy C3.1.2:** Land uses should be arranged in a manner which increases the opportunity to utilize alternate forms of transportation, such as transit systems, bikeways, and pedestrian walkways.

- **Policy C3.1.3:** Promote bicycle accessibility to all public facilities, including parks, schools, and centers of civic activity, to include secure bicycle storage areas.

- **Policy C3.1.4:** Require residential subdivision designs to accommodate convenient pedestrian and bicycle access, both on- and off-site.

- **Policy C3.1.5:** Adopt an implement a bikeway plan as a component of the Parks and Recreation Element.

- **Objective C.4.1:** Promote the use of rail service to support industry in the City.

- **Policy C4.1.1:** Designate industrial land uses in areas with potential for freight rail service.

- **Policy C4.1.2:** Work with the Southern Pacific Transportation Company to increase surface street access across the railroad tracks while minimizing impacts on rail service.

- **Objective C4.2:** Encourage extension of passenger rail service to the City of Palmdale.

- **Policy C4.2.1:** Support regional efforts to connect Palmdale Regional Airport to Los Angeles International Airport with a high-speed rail line.

- **Policy C4.2.2:** Support regional efforts to provide commuter rail service from Palmdale to the Los Angeles basin.

- **Objective C5.1:** Protect opportunities for full utilization and expansion of Air Force Plant 42.

- **Policy C5.1.1:** Adopt land use designations and policies which minimize encroachment of incompatible uses into space utilized by air operations.

- **Policy C5.1.2:** Implement noise and safety policies as developed by the Joint Land Use Committee and as incorporated into various elements of this General Plan.

- **Policy C5.1.3:** Coordinate development policies and decisions with Air Force Plant 42 representatives.

- **Objective C5.2:** Promote development of Palmdale Regional Airport.

- **Policy C5.2.1:** Promote economic development of land surrounding the airport for large-scale commercial uses, so as to support a market demand for airport service.

- **Policy C5.2.2:** Restrict encroachment of incompatible uses into land affected by future demand for airport services.

- **Policy C5.2.3:** Promote and support regional transportation planning for routes serving the airport facility, including State Route 14 and 138.

The following implementation programs will assist the City in accomplishing the objectives and supporting the policies noted above.

A. Circulation Plan. The City will construct or require construction of roads and transportation facilities in conformance with the future roadway network. The City will regularly update the roadway network and coordinate it with the land use plan, to ensure provision of transportation facilities adequate to support permitted land uses throughout the Planning Area.

B. Traffic Model. The City will maintain the traffic model to reflect changing conditions, as road improvements are constructed and new development takes place. The model will be used to evaluate future proposed changes to the Land Use Element of the General plan.

C. Street Standards. Typical street standards specified in the Circulation Element shall be maximum requirements; where existing streets and approved development preclude adherence to these standards, the City will give consideration to modifications to reflect standards under which previous development was approved. Standards will be developed for intersection enhancement where needed.

D. Land Use Plan. The City will establish uses which maximize opportunities for expansion of rail, air, and transit facilities, and minimize land use conflicts with these facilities. The land use plan also establishes strategies to reduce vehicle trips through placement of land uses.

E. Development Review Process. Through its review of development proposals, the City will require right-of-way dedications and street improvements (including but not limited to widening, paving, turn lanes, intersection improvements, and traffic control devices) as conditions of approval, based upon needs generated by the development.

F. California Environmental Quality Act. The City will conduct environmental review of new development proposals and city-initiated capital improvements, to ensure that traffic and transportation-related impacts are mitigated to a less than significant level wherever feasible.

G. **Congestion Management Plan.** The City will require developers to comply with the Congestion Management Plan (CMP) adopted by Los Angeles County's Transportation Commission. The City will comply with goals, directives, and programs contained in the CMP as they relate to city responsibilities.

H. **Right of Way.** Through the Land Use Plan and development review process, the City will reserve or limit uses within future right-of-way needed for roadways.

I. **Capital Improvements.** The City will annually prepare and implement a five-year Capital Improvement Program addressing road improvement projects, continue to pursue a pro-active program of signalization and intersection improvements, and regularly monitor service levels throughout the City to identify deficiencies in service and program improvement schedules.

J. **Transportation System Management.** The City will implement Transportation System Management techniques to increase the capacity of the existing road system.

K. **Transportation Demand Management.** The City will adopt and implement a TDM ordinance which includes but is not limited to the following measures:

1. Support a computerized rideshare service to facilitate creation of carpools between persons living and working in the same vicinities.

2. Provide information to business on how to establish carpool and vanpool programs.

3. Continue to operate the City's park-and-ride facility at Highway 14 and Avenue S, and participate in construction and operation of an additional facility at Sierra Highway and Highway 14.

4. Prepare a long-range park-and-ride plan for future facilities within the City, including methods of financing these facilities.

L. **Transit.** The City will continue to participate in the Antelope Valley Transit Authority to promote implementation of the Antelope Valley Transit Needs Plan, and other plans and programs as developed in the future.

M. Commuter Transportation. The City will explore opportunities for linking commuter bus service from Palmdale to rail transit services in Santa Clarita, to convey commuters to the Los Angeles basin.

N. School Safety. The City will continue to coordinate with school districts within the Planning Area to provide traffic safety controls and devices near schools. The City will also work with the districts to plan for adequate pick-up and drop-off areas near schools for parents and buses.

O. Truck Routes. The City will evaluate the city code periodically to ensure its adequacy in addressing truck route issues.

P. Parking. The City will enhance street capacity by addressing parking needs as follows:

1. Develop a downtown parking plan as part of its downtown revitalization effort.
2. Prohibit parking on all arterial streets
3. Periodically reevaluate off-street parking requirements to ensure that adequate parking is provided for businesses within Palmdale.

Q. Bikeway Plan. The City will adopt and implement a Bikeway Plan to encourage non-vehicular travel throughout the Planning Area.

R. Financing. The City will pursue all feasible funding sources to support improvements to the Circulation System, including traffic impact fees, state and federal funding programs, and public financing methods. The City's Traffic Impact Fee Assessment and Master Traffic Level Maintenance Plan will be implemented and periodically evaluated and updated to support collection and expenditures of developer fees.

S. Inter-Agency Coordination. The City will continue to cooperate with other jurisdictions to develop and implement solutions to regional transportation needs.

The efforts, in addition to policies contained in the Land Use Element and other elements, would mitigate the majority of the traffic impacts associated with buildout of the proposed land use plan. Significant traffic impacts are expected to remain at 11 roadway segments within the Planning Area.

4.2.10 PUBLIC SERVICES

Future development in the Planning Area will require the expansion of public service provisions, such as additional fire stations and personnel, additional police officers, new schools, parks and recreational facilities, expanded library service, and more hospital services. Buildout of the proposed land use plan will require substantial improvements to current services. Actual public service needs will have to be evaluated periodically to ensure adequate service levels are maintained. To evaluate project level impacts, service demand factors are provided where they are available. Impact thresholds for public service demand for use in the CEQA analysis of proposed projects in Palmdale are:

- Impacts on a public service or services are considered significant if the project will result in a reduction in the quality of service to other users of the service.
- Impacts on a public service or services are considered significant if the project requires a service that is currently not adequately provided in the Planning Area.
- Impacts on a public service or services are considered significant if the project cannot be adequately served by the service provider without major changes to existing facilities or staff.

Fire Protection

Environmental Impacts

The demand for fire protection services depends on the presence of fire hazards in the Planning Area. These hazards may include natural conditions, such as dry brush and hot weather, and manmade circumstances, such as industrial accidents and faulty electrical wiring. Fire protection demand will generally increase with the rate

of development. A higher population density will result in a greater potential for fire due to man-made causes. Fire protection service to urban areas is critical because of the potential dangers to life and property.

Also, the demand for fire protection depends on the size of the area to be served. With the rapid annexation activities of the City, additional staffing and equipment would be needed. Additional stations may be needed near areas of development.

The area around the USAF Plant 42 and the proposed regional airport is primarily industrial. Stations assigned for initial action to these areas may require special firefighting equipment to handle chemical fires and hazardous material emergencies.

Fire protection for residential areas, particularly along areas of the City with slopes, would be critical considering the difficulty of access and maintenance of fire hydrant water pressure at higher elevations. Commercial fires, especially in multi-story structures, would require ladder trucks and special equipment, and they often involve higher property value damages than residential fires.

The manpower and equipment needs for General plan buildout cannot be accurately assessed at the plan level. Rather, individual developments would have to be evaluated according to their potential demands for service and fire protection at the time of development. Factors to consider in fire service provision include building density, type of building materials, distance to nearest station, existing fireflow capacities, provision of fire preventive equipment and measures, presence of fire hazards in the area, current demand in the Planning Area, type of land use, use of hazardous materials, setbacks to adjacent structures, available water resource, and other factors which influence fire potential.

The current firefighter-to-population ratio for the Los Angeles County Fire Department is 1:3,800 persons. When buildout of the land use plan is reached, approximately 116 firefighters would be needed to serve the 441,280 residents in the Planning Area. In order to adequately provide fire protection services, firefighting units should be located throughout the City such that no portion of the City is further than 5 miles from a fire station, which is an established goal of the County Fire Department.

The proposed housing programs are intended for the development of adequate housing, specifically for those with special housing needs. The building standards for fire safety shall not be compromised in order to provide for housing. Thus, no impact on fire services from housing is expected other than those discussed above.

The circulation plan will improve the transportation network in the Planning Area. This would help keep all areas accessible to fire trucks and facilitate firefighting efforts.

Impacts on fire protection services in the Planning Area are considered significant unless programs in the proposed General Plan and mitigation measures discussed below are implemented.

Mitigation Measures

The General Plan contains goals, policies, and implementation programs that were established to mitigate the impacts of future development. They are guidelines and actions that will be implemented by the City to address citywide concerns. Although part of the proposed project, these goals, policies, and programs will serve as mitigation measures for the environmental impacts of development under the General Plan. Policies and implementation programs contained in the General Plan which would help mitigate the impacts on fire protection services are:

- **Policy PS5.1.1**. Obtain fire protection, fire prevention, and paramedic services from Los Angeles County Fire District.
- **Policy PS5.1.2**. Monitor needs and service levels, and strive to minimize response time in both urbanized areas and rural or outlying areas.
- **Policy PS5.1.3**. Through the development review process, assess fire protection needs of development projects and require mitigation needed to maintain adequate service levels, including but not limited to reservation of sites for fire stations and fair-share contributions for fire suppression equipment.
- **Policy PS5.1.4**. Coordinate with and assist the Fire Protection District in planning for future fire station sites in Palmdale, and facilitate location and construction of fire stations in conjunction with other city facilities (such as parks or municipal buildings) where feasible.

The following Implementation programs from the Public Services Element will also reduce impacts to fire services:

B: California Environmental Quality Act (CEQA) Review. Every proposed project will be evaluated according to CEQA prior to approval. The CEQA process ensures that environmental impacts will be mitigated to a level of non-significance with regard to groundwater resources, public services (schools, libraries, police protection, and fire protection), and public utilities. The CEQA process is discussed further in the Environmental Resources Element of the General Plan.

C.2: Service Commitment. Service commitment requirements shall include the following:

a. Master or specific plan developments shall dedicate land and/or coordinate with the appropriate agencies for the provision of services such as fire stations, schools, or libraries if the project causes significant impacts on existing services.

b. All projects must pay impact fees to ensure provision of adequate services to development.

E: Development Plan Review. The City's development plan review process shall include:

8. Impacts on libraries, schools, fire and police protection services, and recreation facilities.

P: Building Codes.

1. The City will continue to strictly enforce building and fire safety codes to minimize hazards and the demand for emergency services.

2. The City will continue to require the provision of fire alarms, fire escapes, and extinguishing systems within all commercial, industrial, and multi-family developments.

Q: **Public Awareness Programs**. The City will promote public awareness programs to solicit citizen involvement in reducing the demands for public services and utilities. Awareness can lead to voluntary action, support, active participation in programs, and an understanding of community and regional issues that affect the City. These programs may include but not be limited to:

- Fire prevention
- Crime prevention
- Water conservation
- Earthquake safety
- Educational programs

Implementation of these mitigation measures and city programs will reduce the impacts to fire protection to a less than significant level.

Police Protection

Environmental Impacts

The Los Angeles County Sheriff's Department serves the City, as well as its surrounding areas. Increased development in the City's Planning Area would cause response times for police emergency calls to increase unless staffing levels are increased to respond to the larger service area. The anticipated increase in development density and population that will accompany future growth in the Palmdale area will also result in the increasing need for police protection services.

Residential, commercial, and industrial developments will generate traffic that could increase the incidence of traffic accidents, auto thefts, and burglaries. Additional incidents will routinely occur throughout the City but highly traveled areas, such as along Palmdale Boulevard, around the Antelope Valley Freeway, and around the USAF Plant 42 and the proposed regional airport, are anticipated to have a higher frequency of police protection calls. Industrial developments are expected to generate truck traffic and its related hazards, which will likely increase the need for police services.

High density developments are designated for locations throughout the Planning Area. The demand for police protection in these areas will likely be higher due to the denser population. As most of the Planning Area is slated for residential uses, police protection services would involve neighborhood security activities and responses to crimes against residents and their property.

The demand for police protection will increase with the rate of development in the Planning Area. Adjustments in service levels are recommended by the Sheriff's Department to the City during annual review of the City contract. Recommendations for adjustments are based on population increases, response times, crime trends, and traffic problems.

Response times cannot be easily estimated or predicted within a specific stage of development. The Palmdale Station current police officer-to-population ratio of 1:1,000 is considered adequate to meet the needs of the City. The proposed land use plan would provide resident population of 441,280 persons at buildout which would result in a need for approximately 441 police officers at the 1:1,000 ratio. The ultimate staffing needs of the City would be 6.8 times the existing level of service for the City.

The proposed circulation plan will help improve traffic and circulation in the area which will help reduce the response time of the Sheriff's Department. The proposed housing program will have no impact on police protection services other than those expected from development of the land use plan.

Impacts on police services in the Planning Area are considered significant unless programs in the proposed General Plan and mitigation measures discussed below are implemented.

Mitigation Measures

The General Plan contains goals, policies, and implementation programs that were established to mitigate the impacts of future development. They are guidelines and actions that will be implemented by the City to address citywide concerns. Although part of the proposed project, these goals, policies, and programs will serve as mitigation measures for the environmental impacts of development under the General Plan. Policies and

implementation programs contained in the General Plan which would minimize the impacts on police services are:

- **Policy PS5.2.1**. Contract with the Los Angeles County Sheriff's Department for law enforcement services.
- **Policy PS5.2.2**. Coordinate with and provide input to the Sheriff's Department regarding planning for sheriff's facilities serving Palmdale, with the goal of ultimately obtaining a full-service sheriff's station and satellite stations as needed to serve the community.
- **Policy PS5.2.3**. Monitor staffing and service levels for law enforcement services and work with the Sheriff's Department to ensure adequate staffing to meet service level needs of the community.

The following Implementation programs from the Public Services Element will also reduce impacts to police services:

B: California Environmental Quality Act (CEQA) Review. Every proposed project will be evaluated according to CEQA prior to approval. The CEQA process ensures that environmental impacts will be mitigated to a level of non-significance with regard to groundwater resources, public services (schools, libraries, police protection, and fire protection), and public utilities. The CEQA process is discussed further in the Environmental Resources Element of the General Plan.

C: Service Commitment. The City will continue to incorporate service commitment requirements into its project review process to ensure the availability of services and utilities to new developments. These written commitments are required for the following services prior to issuance of final maps or building permits:

i. Police protection

2. Service commitment requirements shall include the following:

b. All projects must pay impact fees to ensure provision of adequate services to development.

E: **Development Plan Review**. The City's development plan review process shall include:

8. Impacts on libraries, schools, fire and police protection services, and recreation facilities.

O: **County Contracts**.

2. The Fire Department and Sheriff's Department will be invited to participate in the development plan review process to ensure adequacy of services and planning for safety.

4. The City will coordinate long-range master planning with Los Angeles County for Fire Department and Sheriff's Department Services.

Q: **Public Awareness Programs**. The City will promote public awareness programs to solicit citizen involvement in reducing the demands for public services and utilities Awareness can lead to voluntary action, support, active participation in programs, and an understanding of community and regional issues that affect the City. These programs may include but not be limited to:

- Fire prevention
- Crime prevention
- Anti-drug campaigns
- Earthquake safety
- Educational programs
- Other community projects

The City will encourage and support neighborhood watch programs, assist in the initial formation of such groups, and coordinate efforts with the Sheriff's Department.

Implementation of these measures and programs will reduce the impacts to police protection to a less than significant level.

Schools

Environmental Impacts

Impacts to school services will come about as a result of the increased size of the Palmdale Planning Area, which allows for an increased numbers of residential units within the affected school districts' boundaries.

The proposed land use plan increases the residential development capacity of the Planning Area, which will mean a larger student population and a need for more schools. Table 4-14 estimates the student population at the time of the projected buildout of the General Plan.

TABLE 4-14

PROJECTED SCHOOL ENROLLMENTS FOR BUILDOUT

Factors by Grade	Single-Family	Multiple-Family[a]	Total
Elementary[b]	0.34	0.14	
Intermediate[b]	0.10	0.04	
Elementary Total	0.44	0.18	
High School[c]	0.20	0.20	
Student Generation			
Plan at Buildout (Units)	99,193	40,012	139,205
Elementary Students	43,645	7,202	50,847
High School Students	19,839	8,002	27,841
Total Students	63,484	15,204	78,688

[a] Includes mobilehome units.
[b] Palmdale School District generation factors.
[c] Antelope Valley High School District generation factors.

Source: Michael Brandman Associates 1992.

The proposed land use plan has a capacity of 139,205 dwelling units. Using the school districts' generation factors, this results in an elementary student population of 50,847 students and a high school population of 27,841 students. If the average elementary school capacity is 700 students, 78 elementary schools would be needed to serve the Planning Area at buildout. An average high school capacity of 2,000 students would mean a need for 14 high schools at the buildout of the proposed land use plan.

Currently, 40 elementary schools and five high schools serve the Planning Area and the neighboring communities of Lancaster, Littlerock, Leona Valley, Lake Los Angeles, and Quartz Hill. As school districts serve a wider area than the Palmdale Planning Area, additional schools would be needed to serve Palmdale at buildout.

Significant population increases are rapidly filling up available space in classrooms in the different school districts. They are facing problems of overcrowding and under funding. Three high schools are operating over capacity and the need exists for additional high schools by 1995. All of the elementary school districts serving Palmdale are planning to build new schools and most have used temporary facilities to add to existing capacity.

Funds to improve and expand educational facilities come primarily from the state. The school districts assess the adequacy of the existing facilities and the need for future growth. They determine the degree to which the schools are exceeding the capacity of classrooms and teachers and evaluate the impact of proposed development on services and facilities. There is a need to find other sources of financing the required facilities. School districts in Palmdale are currently planning to expand their funding sources.

There are numerous ways that school districts can finance improvements and expansions to the facilities. School districts may impose fees on developers to pay for additional student demand caused by increased development. The school district can work with the City to enact concurrence requirements. Such requirements may be directly negotiated between the District, the City, and the developer.

The proposed housing program is not expected to generate students beyond that directly influenced by the land use plan. The proposed circulation plan will have no impact on school services.

Because of the existing deficiencies in school capacity, and the rapid growth in the area, impacts on school services resulting from the General Plan may be significant.

Mitigation Measures

The General Plan contains goals, policies, and implementation programs that were established to mitigate the impacts of future development. They are guidelines and actions that will be implemented by the City to address citywide concerns. Although part of the proposed project, these goals, policies, and programs will serve as mitigation measures for the environmental impacts of development under the General Plan. Policies and implementation programs relating to school services, as contained in the General Plan, Public Services Element that will help mitigate the impacts on schools are:

- **Policy PS1.1.5**. When new development is proposed in vacant, rural areas which have not yet been master-planned for provision of infrastructure, require that development proponents provide for or contribute a fair share towards development of backbone plans for roads, sewer, water, drainage and community facilities, prior to granting conditional approval of development applications.

- **Policy PS4.1.1**. Through the development review process, ensure that adequate school sites are reserved to serve the ultimate needs of the population; coordinate with school districts to identify appropriate sites and consider school district master plans in evaluating development proposals.

- **Policy PS4.1.2**. Offer administrative, planning, and engineering assistance to the school districts in reviewing school site plans with respect to City plans for drainage, traffic, adjacent land uses, and other considerations.

- **Policy PS4.1.3**. In review of development adjacent to school sites, ensure that street and lot placement, grades, walls, and other design considerations are incorporated into the design so as to minimize potential conflicts with school uses.

- **Policy PS4.1.4**. Condition approvals of development projects to meet the funding requirements of applicable school districts; on legislative decisions such as zone changes or General Plan Amendments, require appropriate school mitigation as determined by the affected districts.

- **Policy PS4.1.5**. Support joint use of school and City park facilities, where appropriate, to meet the needs of the local community, through site location and planning, and assistance with construction funds.

- **Policy PS4.2.1**. Cooperate with other jurisdictions and agencies to work towards establishment of a four-year college or university in the Antelope Valley.

- **Policy PS4.2.2**. Facilitate location of pre-school and day-care facilities in appropriate areas throughout the community, so as to meet the needs of the working population.

- **Policy PS4.2.3**. Support continuing education programs, such as literacy training, through city library and park programs.

The following Implementation programs from the Public Services Element will also reduce impacts to schools:

A: Data Collection For Service Providers. The City will cooperate with service providers to provide data needed to analyze available capacities and to estimate the demands of proposed projects. In order to ensure adequate provision of public services and utilities, service capacities and future demand should be identified. With this information, the City and other service providers can evaluate the impacts of new development on existing facilities. Expansions and changes in services should be monitored, as should new developments in adjacent areas that are served by the same service provider.

This program should include the following effort:

5. Master plans for sewers, water, schools, libraries, and other facilities will be retained on file for evaluation and monitoring purposes.

B: California Environmental Quality Act (CEQA) Review. Every proposed project will be evaluated according to CEQA prior to approval. The CEQA process ensures that environmental impacts will be mitigated to a level of non-significance with regard to groundwater resources, public services (schools, libraries, police protection, and fire protection), and public utilities. The CEQA process is discussed further in the Environmental Resources Element of the General Plan.

C: Service Commitment.

1. The City will continue to incorporate service commitment requirements into its project review process to ensure the availability of services and utilities to new developments. These written commitments are required for the following services prior to issuance of final maps or building permits:

   g. Schools

2. Service commitment requirements shall include the following:

   a. Master or specific plan developments shall dedicate land and/or coordinate with the appropriate agencies for the provision of services such as fire stations, schools, or libraries if the project causes significant impacts on existing services.

   b. All projects must pay impact fees to ensure provision of adequate services to development.

E: Development Plan Review. The City's development plan review process shall include:

8. Impacts on libraries, schools, fire and police protection services, and recreation facilities.

N: Coordination With School Districts. City staff will meet regularly with School District representatives to coordinate land use planning and development review with school facility planning, and to create and maintain a shared database for planning and forecasting purposes.

The database may include but not be limited to the following:

a. Enrollment histories and projections by school, grade, gender, and race.
b. Colleges attended by high school seniors.

c. Current birthrates for projecting five year enrollment.

S: Facility Fees and Charges. Facility fees and charges will be imposed on new developments pursuant to city ordinances. Facility fees and charges may be established for developments to pay for the infrastructure and services that will be needed to maintain the project.

V: Higher Education Opportunities. The City will promote location of a 4-year college or university within the Planning Area.

W: Pre-school/Day Care. The development standards contained within the Zoning Ordinance will be designed to promote the location of pre-school and day care facilities within the Planning Area.

Implementation of the City programs will reduce the impact on schools to a level of insignificance. However, existing deficiencies will remain until the new programs and facilities are put in place.

Parks and Recreation

Environmental Impacts

The proposed land use plan designates 1,554 acres of parks and 7,904 acres of open space areas. Presently, approximately 375 acres of these acres are developed as parkland. The estimated population capacity of the plan is 441,280 residents based on the 1991 average household size of 3.17 persons per dwelling unit. In order to provide the City's parkland to population ratio of 2 acres per 400 persons, 2,206 acres of parkland must be developed. Thus, the proposed plan is short 652 acres from meeting the standard. This could be provided by local parks proposed within large residential tract developments.

Development of specific plans in the area will include the provision of neighborhood parks. This is expected to meet the parks and recreation needs of future residents. A number of regional recrational facilities are near the Planning Area and they provide residents with recreational opportunities year round.

The proposed housing program encourages the development of affordable housing projects. The parkland development fee will add to development costs and could raise housing prices and rents. Ordinance 505 recognizes that park fees do not encourage affordable housing. Thus, it sets the parkland development fee at 80 percent of the estimated costs of actual park development. This will ensure local park provision without placing the entire cost on developers.

The proposed circulation plan is not expected to generate any demand for parks and recreation facilities. No adverse impacts are anticipated from the circulation plan.

Impacts on parks and recreational facilities from the anticipated growth are considered significant unless programs in the proposed General Plan and mitigation measures discussed below are implemented.

Mitigation Measures

The General Plan contains goals, policies, and implementation programs that were established to mitigate the impacts of future development. They are guidelines and actions that will be implemented by the City to address citywide concerns. Although part of the proposed project, these goals, policies, and programs will serve as mitigation measures for the environmental impacts of development under the General Plan. Policies and implementation programs relating to parks and recreation as contained in the General Plan are:

- **Policy PS1.1.2**. Require all new development, including major modifications to existing development, to construct or provide a fair share contribution towards construction of required offsite improvements needed to support the project.

- **Policy PS1.1.5**. When new development is proposed in vacant, rural areas which have not yet been master-planned for provision of infrastructure, require that development proponents provide for or contribute a fair share towards development of backbone plans for roads, sewer, water, drainage, and community facilities, prior to granting conditional approval of development applications.

- **Policy PS1.4.2**. Adopt and implement service level standards for roads, drainage, and park facilities through ongoing monitoring of existing levels of service, and through the Capital Improvement Program (CIP).

- **Policy PS1.4.3**. Adopt, implement, and annually review user fee and impact fee programs, to support the cost of constructing capital facilities and providing services.

- **Policy PS1.4.4**. Explore and implement a variety of public financing methods to fund infrastructure improvements, including assessment districts, Mello-Roos community facilities districts, redevelopment funds, block grant funds, and/or combinations of these and other available funding sources.

- **Policy PS1.4.5**. Adopt a fee program to fund community facilities throughout the community, which may address the Civic Center, library, recreation center, performing arts center, public works yard, senior center expansion, Maryott Auditorium rehabilitation, and other public facilities as deemed appropriate.

- **Policy PS5.4.1**. Adopt and implement a standard of 5-acres of parkland per 1,000 population for the city.

- **Policy PS5.4.2**. Implement the Parks and Recreation Element as a master plan for park acquisition and improvement.

- **Policy PS5.4.3**. Develop a recreation facility to meet the regional recreation needs of the community.

- **Policy PS5.4.4**. Collect park fees and review this fee annually, to provide financing for improvement of parkland in Palmdale.

- **Policy PS5.4.5**. Seek public input on design of all new neighborhood and community parks in Palmdale.

- **Policy PS5.4.6**. Explore various means of acquiring parkland and seek creative and flexible techniques to accomplish city park goals, including but not limited to fee vouchers in exchange for parkland.

- **Policy PS5.4.7**. Where feasible, utilize parks for joint use as flood control facilities.

- **Policy PS5.7.1**. Develop or provide a performing arts center to serve a variety of musical, theatrical, exhibit, and meeting uses.

The following Implementation programs from the Public Services Element will also reduce impacts to parks and recreation resources:

A: Data Collection For Service Providers. The City will cooperate with service providers to provide data needed to analyze available capacities and to estimate the demands of proposed projects. In order to ensure adequate provision of public services and utilities, service capacities and future demand should be identified. With this information, the City and other service providers can evaluate the impacts of new development on existing facilities. Expansions and changes in services should be monitored, as should new developments in adjacent areas that are served by the same service provider.

This program should include the following effort:

5. Master plans for sewers, water, schools, libraries, and other facilities will be retained on file for evaluation and monitoring purposes.

B: California Environmental Quality Act (CEQA) Review. Every proposed project will be evaluated according to CEQA prior to approval. The CEQA process ensures that environmental impacts will be mitigated to a level of non-significance with regard to groundwater resources, public services (schools, libraries, police protection, and fire protection), and public utilities. The CEQA process is discussed further in the Environmental Resources Element of the General Plan.

S: Facility Fees and Charges. Facility fees and charges will be imposed on new developments pursuant to city ordinances. Facility fees and charges may be established for developments to pay for the infrastructure and services that will be needed to maintain the project.

Implementation of the city policies and implementation programs will reduce impacts to parks to a level and recreation of insignificance.

Library Services

Environmental Impacts

The increase in population due to the expansion of the Planning Area may not directly impact library services in the area. However, the population which will result from development of the land use plan will create an increased demand for city library services. The proposed land use plan will accommodate approximately 441,280 persons when its anticipated capacity is met.

With the standards for library space and service, Table 4-15 shows the space and service requirements for the proposed land use plan. Current facilities do not meet these standards as discussed in Section 3.10.5. Any development will have significant impacts on library services until expansion plans are completed.

The buildout population would need approximately 15 8 times the existing book collection (70,000 volumes) at the City library. Staffing, the periodical collection, and seating, among other things, would also have to be increased in order to meet the library requirements of the City. With the expansion of the Planning Area, branch libraries in the eastern, northwestern, and southern areas would keep services within accessible distances to residents. Expansion of these facilities would be required to serve these sections of the City as the residential areas develop.

Buildout of the proposed land use plan will create a demand for an expanded library service program. The table above provides guidelines on space and service needs to meet projected demands. The higher density of residential development allowed near the city center would translate into a larger population seeking library services as compared to lower density outlying areas which would have smaller demand for library services. Future library services should be centrally located to serve the greatest number of residents with the least amount of travel distance. The Palmdale City Library is currently exploring funding sources to construct a larger facility.

The proposed housing programs and Circulation Element are not expected to generate population growth and will not have any impact on library services.

Impacts on library services are considered significant because of existing service deficiencies unless programs in the proposed General Plan and mitigation measures discussed below are implemented.

TABLE 4-15

LIBRARY SPACE AND SERVICE REQUIREMENTS

	Standard	Proposed Plan Buildout
Book Volumes	2.5/capita	1,103,200
Periodicals	8.5/1,000 population	749
Staff	0.5/1,000 population	221
Reader seats	5/1,000 population	2,205
Parking Space (without meeting room staff parking)	1/every 2 reader seats	1,103
Workroom Space (square feet)	125/staff	27,625
Storage Space (square feet)	10% gross sq ft of library space	35,302
Library Size (square feet)	0.80/capita	353,024

Source: Michael Brandman Associates 1992.

Mitigation Measures

The General Plan contains goals, policies, and implementation programs that were established to mitigate the impacts of future development. They are guidelines and actions that will be implemented by the City to address citywide concerns. Although part of the proposed project, these goals, policies, and programs will serve as mitigation measures for the environmental impacts of development under the General Plan. Policies and implementation programs in the General Plan that deal with library service provision that will alleviate the impacts of development on library services are:

- **Policy PS1.4.3**. Adopt, implement, and annually review user fee and impact fee programs, to support the cost of constructing capital facilities and providing services.

- **Policy PS1.4.4**. Explore and implement a variety of public financing methods to fund infrastructure improvements, including assessment districts, Mello-Roos community facilities districts, redevelopment funds, block grant funds, and/or combinations of these and other available funding sources.

- **Policy PS1.4.5**. Adopt a fee program to fund community facilities throughout the community, which may address the Civic Center, library, recreation center, performing arts center, public works yard, senior center expansion, Maryott Auditorium rehabilitation, and other public facilities as deemed appropriate.

- **Policy PS1.4.6**. Evaluate the need for satellite city services throughout the community.

- **Policy PS5.3.1**. Evaluate the existing and future library system in the Planning Area and plan for provision of sufficient facility space and materials to serve the population.

- **Policy PS5.3.2**. Adopt and implement the following standards as a goal for library service to the community:

  2.5 volumes per capita
  8.5 periodicals per 1,000 population
  0.5 staff per 1,000 population
  5.0 reader's seats per 1,000 population
  0.8 square foot of building space per capita

- **Policy PS5.3.3**. Maintain reciprocal agreements with the county library system and other institutions to provide an additional resource in the city.

- **Policy PS5.3.4**. Promote the construction of new libraries, and the expansion of existing libraries as required to meet the needs of existing and future population.

- **Policy PS5.3.5**. Encourage the provision of library outreach services for residents who cannot visit library facilities.

The following implementation programs from the Public Services Element will also reduce impacts to library services:

A: Data Collection For Service Providers. The City will cooperate with service providers to provide data needed to analyze available capacities and to estimate the demands of proposed projects. In order to ensure adequate provision of public services and utilities, service capacities and future demand should be identified. With this information, the City and other service providers can evaluate the impacts of new development on existing facilities. Expansions and changes in services should be monitored, as should new developments in adjacent areas that are served by the same service provider.

This program should include the following effort:

1. Data will be compiled in the Planning Department, with monthly input from other departments and agencies, including coordinations between City and County offices.

5. Master plans for sewers, water, schools, libraries, and other facilities will be retained on file for evaluation and monitoring purposes.

B: California Environmental Quality Act (CEQA) Review. Every proposed project will be evaluated according to CEQA prior to approval. The CEQA process ensures that environmental impacts will be mitigated to a level of non-significance with regard to groundwater resources, public services (schools, libraries, police protection, and fire protection), and public utilities. The CEQA process is discussed further in the Environmental Resources Element of the General Plan.

C: Service Commitment.

2. Service commitment requirements shall include the following:

   a. Master or specific plan developments shall dedicate land and/or coordinate with the appropriate agencies for the provision of services such as fire stations, schools, or libraries if the project causes significant impacts on existing services.

D: Capital Improvement Program. The City will include public facility expansions in its Capital Improvement Program (CIP). The program's priorities shall be coordinated with anticipated developments to ensure that infrastructure and facilities are constructed where and when they are needed.

E: Development Plan Review. The City's development plan review process shall include:

8. Impacts on libraries, schools, fire and police protection services, and recreation facilities.

F: Master Facility Planning. The City will cooperate in planning for the expansion of public services and utilities that serve the area. The City may recommend programs or measures that will serve the best interests of the City. In addition, the City will promote coordinated infrastructure planning to provide shared corridors for various facilities, to minimize visual and environmental impacts and required easements.

U: Library Master Plan.

1. The City will develop a library master plan for construction of additional library facilities, pursuant to adopted city library standards. Additional sites, funding mechanisms, and improvement programs and facilities will be addressed.

2. Reciprocal agreements with the County library system, local colleges, and universities will continue to be implemented to provide additional library resources to city residents.

Implementation of the appropriate City policies and implementation programs will reduce impacts on library services to an insignificant level. However, because of current service deficiencies, impacts of growth will remain significant until planned new and expanded facilities are implemented.

Hospital Services

Environmental Impacts

The proposed land use plan will increase the population capacity of the Planning Area at buildout. A larger population will mean greater demand for hospital and health care services. The demand for services also depends on environmental conditions, health practices of residents, medical technology, and cheaper or more convenient medical options.

The adequacy of hospital services may be evaluated based on occupancy of beds and rate of patient transfer. The City shall ensure that hospital services are available to serve residents through coordination with local hospitals and monitoring of service provision. The Housing Element and Circulation Element will have no impact on hospital services.

There is no accurate way to predict the demand for hospital services at buildout. Because existing services are adequate, it is anticipated that additional services will be added concurrent with demand. No significant impacts to hospital services are anticipated.

Mitigation Measures

The General Plan contains goals, policies, and implementation programs that were established to mitigate the impacts of future development. They are guidelines and actions that will be implemented by the City to address

citywide concerns. Although part of the proposed project, these goals, policies, and programs will serve as mitigation measures for the environmental impacts of development under the General Plan. Policies and implementation programs in the Public Services Element relating to hospital services that would mitigate impacts on hospital services are:

- **Policy PS1.4.4**. Explore and implement a variety of public financing methods to fund infrastructure improvements, including assessment districts, Mello-Roos community facilities districts, redevelopment funds, block grant funds, and/or combinations of these and other available funding sources.

- **Policy PS1.4.5**. Adopt a fee program to fund community facilities throughout the community, which may address the Civic Center, library, recreation center, performing arts center, public works yard, senior center expansion, Maryott Auditorium rehabilitation, and other public facilities as deemed appropriate.

- **Policy PS1.4.6**. Evaluate the need for satellite city services throughout the community.

- **Policy PS5.5.1**. Encourage the balanced development of medical care facilities throughout the City.

- **Policy PS5.5.2**. Work with Los Angeles County to assist in coordination of health care programs for city residents.

The following implementation programs from the Public Services Element will also reduce impacts to hospitals:

A: Data Collection For Service Providers. The City will cooperate with service providers to provide data needed to analyze available capacities and to estimate the demands of proposed projects. In order to ensure adequate provision of public services and utilities, service capacities and future demand should be identified. With this information, the City and other service providers can evaluate the impacts of new development on existing facilities. Expansions and changes in services should be monitored, as should new developments in adjacent areas that are served by the same service provider.

This program should include the following effort:

5. Master plans for sewers, water, schools, libraries, and other facilities will be retained on file for evaluation and monitoring purposes.

B: California Environmental Quality Act (CEQA) Review. Every proposed project will be evaluated according to CEQA prior to approval. The CEQA process ensures that environmental impacts will be mitigated to a level of non-significance with regard to groundwater resources, public services (schools, libraries, police protection and fire protection), and public utilities The CEQA process is discussed further in the Environmental Resources Element of the General Plan.

S: Facility Fees and Charges. Facility fees and charges will be imposed on new developments pursuant to city ordinances. Facility fees and charges may be established for developments to pay for the infrastructure and services that will be needed to maintain the project.

Implementation of the City programs will reduce impacts on hospital services to a less than significant level.

4.2.11 PUBLIC UTILITIES

Development under the proposed land use plan would increase demand for public services and utilities in the Planning Area.

The proposed plan at projected buildout will accommodate approximately 139,205 dwelling units, 51.8 million square feet of commercial uses, 478.8 million square feet of industrial uses, 134.3 million square feet of airport and related uses, and 3.8 million square feet of public facilities. These figures are derived from the typical floor area ratios anticipated under the proposed land use plan, as listed in Table 4-10 (Land Use Section).

While this EIR evaluates impacts on the General Plan level, factors to evaluate project level impacts are provided by land use type. Thresholds of significance for public utility services for use in the CEQA analysis of proposed projects in Palmdale are:

- Impacts on public utilities are considered significant if the project will result in a reduction in the quality of service to other users of the utility.
- Impacts on a public utility are considered significant if the project will add to the demand for a public utility that is currently not adequately provided in the Planning Area.
- Impacts on a public utility are considered significant if the project will require major improvements in the utility's system of facilities to adequately serve the project.

Impacts on individual public utilities are described below.

Water Services

Environmental Impacts

Development under the proposed land use plan in the Planning Area which will result in a greater demand for water. Historical overdrafting (usage of water beyond the rate of natural replenishment) has caused the groundwater table to lower considerably. Rates of decline range from 1 foot per year in nonpumping areas to

12 feet per year in existing pumping depression. Drawdowns of 100 feet or more occur during the summer pumping season. Although no current data are available, USGS estimates 200-foot decline in the water table in the last 60 years. Some water districts have reported 6-foot declines per year in their wells.

A primary concern limiting future development is the availability of groundwater resources. Local groundwater resources have continued to be used and depleted largely because they are less expensive than imported water. As a consequence, groundwater is not allowed to recharge naturally. Furthermore, existing water supplies will be impacted by the increase in water consumption brought about as a result of increased dwelling unit capacity and residential land area designated in the land use plan. Therefore, it will be difficult for water purveyors to meet water demands in the future if local water resources are depleted and water entitlement is cut back. As a result of continued drought conditions, the City may be forced to require that city residents and businesses implement water conservation measures. Some of the most effective ways of conserving water usage include limiting the watering of lawns and ornamental gardens, installing water conservation shower heads and toilets, and limiting the washing of cars.

Buildout of the City's Land Use Element is projected at 139,205 dwelling units, 51.8 million square feet of commercial development, 613.0 million square feet of industrial and airfield related development, and 3.8 million square feet of public facilities development. Table 4-16 summarizes water consumption for residential, commercial, industrial, and public facilities under the proposed General Plan.

At buildout, Palmdale is predicted to consume approximately 135.93 million gallons per day (169,731 acre-feet per year). Local groundwater levels and aquifer capacity have not been measured since 1984 and groundwater volume capacity varies with discharge and recharge from regional use and climatic conditions.

To date, the State Water Project is able to only provide half of its total entitlement. Half of the State Water Project entitlement to both AVEK and PWD is approximately 77,850 acre-feet per year. Using this amount to estimate water supply, Palmdale will be able to meet 45 percent of its water demands with water from AVEK and the remainder would have to come from groundwater resources.

If drought conditions persist, water deliveries from the project may be cut to 1985 levels. Therefore, AVEK and PWD cannot rely on receiving full entitlement from the State Water Project. Accordingly, it will be difficult for Palmdale purveyors to meet future water demands.

TABLE 4-16

PROJECTED WATER CONSUMPTION

Land Use	Consumption Factor[a]	Proposed General Plan Buildout
Residential	400 gpd/unit	55.68 mgd
Commercial	120 gpd/ksf	6.23 mgd
Industrial	120 gpd/ksf	73.56 mgd
Public Facilities	120 gpd/ksf	0.46 mgd
Total		135.93 mgd

gpd = gallons per day
ksf = thousand square feet
mgd = million gallons per day

[a] Consumption factors are based on City of Los Angeles Waste Water Program sewage generation rates, increased by a factor of 20 percent for water consumption.

Source: Michael Brandman Associates 1992.

If current service provision practices continue, overlapping of service districts will increase. This will result in underutilization of water lines, inequalities in service, numerous water line easements, companies outside state regulation, and other problems. Overall inefficiencies and management difficulties for the City will evolve over time.

The Circulation Element is not expected to have any adverse impacts on water services and resources.

The proposed Housing Element will not have any impact on water services other than those addressed by the proposed land use plan. The Community Design Element is expected to help improve the aesthetic quality of the city landscape by encouraging drought-tolerant plant materials as a step towards water conservation. It is not expected to have any adverse impact on water resources and services.

Cumulative impacts on water services in the Planning Area are considered significant.

Mitigation Measures

The General Plan contains goals, policies, and implementation programs that were established to mitigate the impacts of future development. They are guidelines and actions that will be implemented by the City to address citywide concerns. Although part of the proposed project, these goals, policies, and programs will serve as mitigation measures for the environmental impacts of development under the General Plan. Policies and implementation programs on water service provision as contained in the Public Services Element which will help mitigate water service impacts are:

- **Policy PS1.1.1**. Require all new development, including major modifications to existing development, to construct required onsite infrastructure improvements pursuant to city standards.

- **Policy PS1.1.2**. Require all new development, including major modifications to existing development, to construct or provide a fair share contribution towards construction of required offsite improvements needed to support the project.

- **Policy PS1.1.3**. Require that on and offsite improvements are constructed prior to occupancy of a new development project, or phase thereof, unless otherwise approved by the City.

- **Policy PS1.1.4**. Require that adequate provisions are made for maintenance of public improvements, prior to approval of any new development project.

- **Policy PS1.1.5**. When new development is proposed in vacant, rural areas which have not yet been master-planned for provision of infrastructure, require that development proponents provide for or contribute a fair share towards development of backbone plans for roads, sewer, water, drainage and community facilities, prior to granting conditional approval of development applications.

- **Policy PS1.1.6**. When reviewing applications for land use designation changes (i.e., zone change, General Plan Amendment, specific plan amendment), conduct a thorough analysis of the impacts of the proposed change on all elements of the City's infrastructure systems, and require mitigation as deemed appropriate.

- **Policy PS1.2.1**. Require that provision of streets, sewer, water, drainage and other needed infrastructure be coordinated in a logical manner between adjacent developments, so as to reduce cost of design, construction, and maintenance.

- **Policy PS1.2.2**. Require that individual development projects integrate with adjacent development with respect to backbone infrastructure (streets, sewer, water, and drainage). If adjacent property is undeveloped, a conceptual plan should be prepared to show that the pending development will allow for future integration and development of adjacent properties in a manner which is reasonable from a design, construction, and cost standpoint.

- **Policy PS1.2.4**. Require that phasing of infrastructure requirements within a development consider adjacent properties to the extent feasible.

- **Policy PS1.2.5**. Require that infrastructure be designed and constructed to meet ultimate capacity needs, pursuant to a master plan, so as to avoid the need for costly retrofitting.

- **Policy PS1.2.8**. Distribute the costs of extending infrastructure equitably among those benefiting from the improvements.

- **Policy PS1.3.2**. Direct growth towards areas which already have backbone infrastructure available, by providing incentives for quality infill development.

- **Policy PS1.3.3**. Encourage development which fully utilizes existing infrastructure systems, while decreasing the need for costly extensions of infrastructure into undeveloped areas.

- **Policy PS1.3.4**. Encourage clustering of development where appropriate, to maximize use of infrastructure.

- **Policy PS1.3.5**. Adopt comprehensive planning documents such as area plans, specific plans, and development agreements, to specify the nature, timing, and financing of public improvements and services.

- **Policy PS1.3.6**. Encourage mixed use development to maximize use of infrastructure system.

- **Policy PS1.4.1**. Adopt and annually update the city's Capital Improvement Program (CIP) to prioritize funding for public works projects in accordance with this General Plan.

- **Policy PS1.4.3**. Adopt, implement, and annually review user fee and impact fee programs, to support the cost of constructing capital facilities and providing services.

- **Policy PS1.4.4**. Explore and implement a variety of public financing methods to fund infrastructure improvements, including assessment districts, Mello-Roos community facilities districts, redevelopment funds, block grant funds, and/or combinations of these and other available funding sources.

- **Policy PS1.6.1**. Through adoption of an ordinance, regulate utility line and other utility infrastructure placement and require undergrounding in specified locations where feasible.

- **Policy PS1.6.2**. Coordinate installation of utility line placement with street construction, where possible, to minimize cost.

- **Policy PS1.6.3**. Through the development review process, protect existing utility easements and require dedication of additional easements where needed.

- **Policy PS2.1.1**. Require new development to obtain adequate water service to meet the increased demand generated by that development.

- **Policy PS2.1.2**. Protect groundwater quality through policies and implementation measures contained in the Environmental Resources Element.

- **Policy PS2.1.3**. Promote water conservation in all phases of development planning and construction through policies and implementation measures contained in the Environmental Resources Element.

- **Policy PS2.1.4**. Support water suppliers and other jurisdictions within the Antelope Valley in studying the current status and projected needs for water supply and delivery.

- **Policy PS2.2.6**. Work with the Sanitation District to identify users for reclaimed water and support plans for its treatment and distribution.

The following implementation measures, contained in the Public Services Element, will also reduce impacts to water resources:

A: Data Collection For Service Providers. The City will cooperate with service providers to provide data needed to analyze available capacities and to estimate the demands of proposed projects. In order to ensure adequate provision of public services and utilities, service capacities and future demand should be identified. With this information, the City and other service providers can evaluate the impacts of new development on

existing facilities. Expansions and changes in services should be monitored, as should new developments in adjacent areas that are served by the same service provider.

This program should include the following effort:

3. When necessary, data will be obtained regarding usage rates of current developments and updates on the capacities of services.

5. Master plans for sewers, water, schools, libraries, and other facilities will be retained on file for evaluation and monitoring purposes.

B: California Environmental Quality Act (CEQA) Review. Every proposed project will be evaluated according to CEQA prior to approval. The CEQA process ensures that environmental impacts will be mitigated to a level of non-significance with regard to groundwater resources, public services (schools, libraries, police protection and fire protection), and public utilities. The CEQA process is discussed further in the Environmental Resources Element of the General Plan.

C: Service Commitment.

1. The City will continue to incorporate service commitment requirements into its project review process to ensure the availability of services and utilities to new developments. These written commitments are required for the following services prior to issuance of final maps or building permits:

   a. Water service

2. Service commitment requirements shall include the following:

   b. All projects must pay impact fees to ensure provision of adequate services to development.

c. All relevant service providers shall be notified of pending projects and invited to comment prior to tentative project approval.

d. Service commitment letters from all relevant utility companies will be required prior to issuance of building permits.

D: Capital Improvement Program. The City will include public facility expansions in its Capital Improvement Program (CIP). The program's priorities shall be coordinated with anticipated developments to ensure that infrastructure and facilities are constructed where and when they are needed.

E: Development Plan Review. The City's development plan review process shall include:

1. Coordination with capital improvement projects.

2. Evaluation of available and future capacities of public services and utilities (as facilitated by service capacity monitoring).

6. Utility line easements and facilities design.

F: Master Facility Planning. The City will cooperate in planning for the expansion of public services and utilities that serve the area. The City may recommend programs or measures that will serve the best interest of the City. In addition, the City will promote coordinated infrastructure planning to provide shared corridors for various facilities, to minimize visual and environmental impacts and required easements.

H: Water Conservation Programs and Reclamation Techniques. The City will establish the following water conservation programs to help preserve resources in the Planning Area.

1. Assist in developing public awareness programs on groundwater resources and overdrafting, to encourage residents and business in reducing water consumption.

2. Explore use of reclaimed water for irrigating golf courses, median dividers, and parkways.

3. Encourage the use of native local plants and other drought tolerant plants in landscaping throughout the City.

4. Develop a water conservation ordinance including but not limited to the following measures:

   a. Encouraging the installation of low flush toilets and low flow shower heads in existing residential developments.

   b. Restricting washing down of sidewalks and driveways.

   c. Requirements for recycling mechanisms for commercial car washes.

   d. Encouraging irrigation in the early mornings and late evenings only.

   e. Encouraging water recycling on construction projects.

5. Develop a xeriscape ordinance.

S: Facility Fees and Charges. Facility fees and charges will be imposed on new developments pursuant to city ordinances. Facility fees and charges may be established for developments to pay for the infrastructure and services that will be needed to maintain the project.

The aforementioned city programs will minimize the impact on water service, but not eliminate it. However, city requirements to make project approvals contingent upon water availability will reduce impacts on water service in the Palmdale Planning Area to a less than significant level.

Sewer Services

Environmental Impacts

The proposed land use plan will accommodate 139,205 dwelling units at buildout. Calculations of sewer generation for the plan shows that the proposed land use plan will generate 112.71 million gallons per day of sewage at buildout. Table 4-17 provides the estimates.

At buildout of the proposed land use plan, sewer treatment plants will be required with a total capacity of at least 112.71 mgd. This is clearly beyond the planned expansion capacity of the sewage treatment plants in the area (24.2 mgd). New facilities would need to be provided to serve developments as they occur. Existing sewer trunk lines will have to be upgraded to serve the larger Planning Area.

TABLE 4-17

PROJECTED DAILY SEWAGE GENERATION

Land use	Generation Factors[a]	Proposed General Plan Buildout
Residential	330 gpd/du	45.94 mgd
Commercial	100 gpd/ksf	5.19 mgd
Industrial	100 gpd/ksf	61.30 mgd
Public Facilities	100 gpd/ksf	0.38 mgd
Total		112.71 mgd

gpd = gallons per day.
ksf = thousand square feet.
mgd = million gallons per day.

[a] City of Los Angeles Waste Water Program 1988.

By 2010, the Planning Area is estimated to process approximately 2.8 times the present daily sewage capacity of 17 mgd. The Los Angeles County Sanitation Districts are expanding their facilities to accommodate an additional 4.2 mgd of flow. This is 26 percent of the projected need. Expansion must also consider Lancaster's growth since District 14 primarily serves the City of Lancaster. Unless sufficient capacity is built for sewage treatment, significant impacts would occur prior to buildout.

Land uses adjacent to the existing treatment plants are susceptible to the impacts of odor, truck traffic and groundwater quality resulting from operations at the plant. Adjacent designations are industrial and airport related uses. This keeps the compatibility of uses in the area and buffers commercial and residential uses from the plant's impacts.

The proposed housing programs, circulation plan, and community design guidelines are not expected to generate sewage other than that accounted for by the proposed land use plan. Thus, they will not have any impact on sewage generation and the demand for sewer services.

Cumulative impacts on sewer services are considered significant.

Mitigation Measures

The General Plan contains goals, policies, and implementation programs that were established to mitigate the impacts of future development. They are guidelines and actions that will be implemented by the City to address citywide concerns. Although part of the proposed project, these goals, policies, and programs will serve as mitigation measures for the environmental impacts of development under the General Plan. Policies and implementation programs on sewer services as contained in the Public Services Element that may help mitigate the impacts on sewer services are:

- **Policy PS1.1.1**. Require all new development, including major modifications to existing development, to construct required onsite infrastructure improvements pursuant to city standards.

- **Policy PS1.1.2.** Require all new development, including major modifications to existing development, to construct or provide a fair share contribution towards construction of required offsite improvements needed to support the project.

- **Policy PS1.1.3.** Require that on and offsite improvements are constructed prior to occupancy of a new development project, or phase thereof, unless otherwise approved by the City.

- **Policy PS1.1.4.** Require that adequate provisions are made for maintenance of public improvements, prior to approval of any new development project.

- **Policy PS1.1.5.** When new development is proposed in vacant, rural areas which have not yet been master-planned for provision of infrastructure, require that development proponents provide for or contribute a fair share towards development of backbone plans for roads, sewer, water, drainage and community facilities, prior to granting conditional approval of development applications.

- **Policy PS1.1.6.** When reviewing applications for land use designation changes (i.e., zone change, General Plan Amendment, specific plan amendment), conduct a thorough analysis of the impacts of the proposed change on all elements of the City's infrastructure systems, and require mitigation as deemed appropriate.

- **Policy PS1.2.1.** Require that provision of streets, sewer, water, drainage and other needed infrastructure be coordinated in a logical manner between adjacent developments, so as to reduce cost of design, construction, and maintenance.

- **Policy PS1.2.2.** Require that individual development projects integrate with adjacent development with respect to backbone infrastructure (streets, sewer, water, and drainage). If adjacent property is undeveloped, a conceptual plan should be prepared to show that the pending development will allow for future integration and development of adjacent properties in a manner which is reasonable from a design, construction, and cost standpoint.

- **Policy PS1.2.3.** Require that the proposed infrastructure design within a development project permits economical and efficient development of land, both on the subject property and on adjacent properties.

- **Policy PS1.2.4.** Require that phasing of infrastructure requirements within a development consider adjacent properties to the extent feasible.

- **Policy PS1.2.5.** Require that infrastructure be designed and constructed to meet ultimate capacity needs, pursuant to a master plan, so as to avoid the need for costly retrofitting.

- **Policy PS1.2.7**. Ensure that street rights-of-way, drainage facilities, or other similar public infrastructure are not aligned in a manner that increases the developability of single property at the expense of an adjacent property, unless so required by regional infrastructure plans.

- **Policy PS1.2.8**. Distribute the costs of extending infrastructure equitably among those benefiting from the improvements.

- **Policy PS1.3.2**. Direct growth towards areas which already have backbone infrastructure available, by providing incentives for quality infill development.

- **Policy PS1.3.3**. Encourage development which fully utilizes existing infrastructure systems, while decreasing the need for costly extensions of infrastructure into undeveloped areas.

- **Policy PS1.3.4**. Encourage clustering of development where appropriate, to maximize use of infrastructure.

- **Policy PS1.3.5**. Adopt comprehensive planning documents such as area plans, specific plans, and development agreements, to specify the nature, timing, and financing of public improvements and services.

- **Policy PS1.3.6**. Encourage mixed use development to maximize use of infrastructure system.

- **Policy PS1.4.1**. Adopt and annually update the city's Capital Improvement Program (CIP) to prioritize funding for public works projects in accordance with this General Plan.

- **Policy PS1.4.3**. Adopt, implement, and annually review user fee and impact fee programs, to support the cost of constructing capital facilities and providing services.

- **Policy PS1.4.4**. Explore and implement a variety of public financing methods to fund infrastructure improvements, including assessment districts, Mello-Roos community facilities districts, redevelopment funds, block grant funds, and/or combinations of these and other available funding sources.

- **Policy PS1.4.7**. Evaluate infrastructure facilities and service levels within developed areas which annex to the city, and promote programs to retrofit street, drainage, and sewer improvements where warranted.

- **Policy PS 1.5.3**. Coordinate planning issues with outside service provider representatives, such as the school districts, sheriff's department, fire district, water districts, and sanitation district, to promote coordinated master planning for these services.

- **Policy PS1.6.1**. Through adoption of an ordinance, regulate utility line and other utility infrastructure placement and require undergrounding in specified locations where feasible.

- **Policy PS1.6.2.** Coordinate installation of utility line placement with street construction where possible, to minimize cost.

- **Policy PS1.6.3.** Through the development review process, protect existing utility easements and require dedication of additional easements where needed.

- **Policy PS2.2.1.** Coordinate with the Los Angeles County Sanitation District to evaluate the sewage disposal system as often as necessary (at least biannually), to ensure adequacy of the system to meet changes in demand and changes in types of waste which occur as a result of development.

- **Policy PS2.2.2.** Require new development to pay necessary fees for expansion of the sewage disposal system to the appropriate agencies, to handle the increased load which it will generate.

- **Policy PS2.2.3.** Support the Los Angeles County Sanitation District in preparation of a master plan for regional sewer facilities in Palmdale.

- **Policy PS2.2.4.** Require that all commercial, industrial, institutional, multiple family and single-family residential uses with lot sizes of less than one acre be connected to a public sewer system.

- **Policy PS2.2.5.** Promote annexation of incorporated areas into the Los Angeles County Sanitation District boundaries in a logical fashion, to promote efficient master-planning for sewer facilities.

- **Policy PS2.2.6.** Work with the Sanitation District to identify users for reclaimed water and support plans for its treatment and distribution.

The following implementation programs, contained in the Public Services Element, will also reduce impacts to sewer services:

A: Data Collection For Service Providers. The City will cooperate with service providers to provide data needed to analyze available capacities and to estimate the demands of proposed projects. In order to ensure adequate provision of public services and utilities, service capacities and future demand should be identified. With this information, the City and other service providers can evaluate the impacts of new development on existing facilities. Expansions and changes in services should be monitored, as should new developments in adjacent areas that are served by the same service provider.

This program should include the following effort:

2. Current data will be maintained on available capacity of public utilities and services to use in evaluating project demands.

3. When necessary, data will be obtained regarding usage rates of current developments and updates on the capacities of services.

5. Master plans for sewers, water, schools, libraries, and other facilities will be retained on file for evaluation and monitoring purposes.

B: California Environmental Quality Act (CEQA) Review. Every proposed project will be evaluated according to CEQA prior to approval. The CEQA process ensures that environmental impacts will be mitigated to a level of non-significance with regard to groundwater resources, public services (schools, libraries, police protection and fire protection), and public utilities. The CEQA process is discussed further in the Environmental Resources Element of the General Plan.

C: Service Commitment.

1. The City will continue to incorporate service commitment requirements into its project review process to ensure the availability of services and utilities to new developments. These written commitments are required for the following services prior to issuance of final maps or building permits:

   b. Sewer service

2. Service commitment requirements shall include the following:

   b. All projects must pay impact fees to ensure provision of adequate services to development.

c. All relevant service providers shall be notified of pending projects and invited to comment prior to tentative project approval.

d. Service commitment letters from all relevant utility companies will be required prior to issuance of building permits.

D: Capital Improvement Program. The City will include public facility expansions in its Capital Improvement Program (CIP). The program's priorities shall be coordinated with anticipated developments to ensure that infrastructure and facilities are constructed where and when they are needed.

E: Development Plan Review. The City's development plan review process shall include:

1. Coordination with capital improvement projects.

2. Evaluation of available and future capacities of public services and utilities (as facilitated by service capacity monitoring).

4. Availability of sewer system capacity.

6. Utility line easements and facilities design.

F: Master Facility Planning. The City will cooperate in planning for the expansion of public services and utilities that serve the area. The City may recommend programs or measures that will serve the best interest of the City. In addition, the City will promote coordinated infrastructure planning to provide shared corridors for various facilities, to minimize visual and environmental impacts and required easements.

H: Water Conservation Programs and Reclamation Techniques. The City will establish the following water conservation programs to help preserve resources in the Planning Area.

1. Assist in developing public awareness programs on groundwater resources and overdrafting, to encourage residents and business in reducing water consumption.

2. Explore use of reclaimed water for irrigating golf courses, median dividers, and parkways.

4. Develop a water conservation ordinance including but not limited to the following measures:

   a. Encouraging the installation of low flush toilets and low flow shower heads in existing residential developments.

   b. Restricting washing down of sidewalks and driveways.

   c. Requirements for recycling mechanisms for commercial car washes.

   d. Encouraging irrigation in the early mornings and late evenings only.

   e. Encouraging water recycling on construction projects.

I: Sewer Master Plan. The City will maintain, update, and implement its master plan for the local sewerage system in the Planning Area, and will cooperate with the County Sanitation District in planning for regional sewage facilities. The City, together with the Los Angeles County Sanitation Districts, should monitor sewer line deficiencies and implement programs to retrofit inadequate lines as needed.

Implementation of the city policies and implementation programs will reduce the impact on sewer services to a less than significant level.

Solid Waste Disposal

Environmental Impacts

The impacts of the proposed land use plan on solid waste generation are estimated using the City of Los Angeles generation factors as derived from the City of Los Angeles EIR Guidelines. These factors are provided in Table 4-18.

TABLE 4-18

SOLID WASTE GENERATION FACTORS

Land Use	Factor
Single-family Residential	15 lbs/unit/day
Multi-family Residential	5.5 lbs/unit/day
Commercial	5 lbs/1,000 sq ft/day
Industrial Manufacturing	10 lbs/1,000 sq ft/day
Government/Institutional	7 lbs/1,000 sq ft/day

Source: City of Los Angeles EIR Guidelines.

Buildout of the proposed plan will accommodate approximately 99,193 single-family dwelling units, 40,012 multi-family units, 51.8 million square feet commercial uses, 613.1 million square feet of industrial and airport uses, and 3.8 million square feet of public facilities. Table 4-19 estimates solid waste generation.

Solid waste generation for the land use plan buildout is estimated at 3,562 tons per day. As the City grows through time, the amount of solid waste generated by the City will also grow. Given the landfill's expanded capacity of 105 million tons, there should be adequate capacity to dispose of the City's generated waste.

According to the City's Integrated Waste Management Plan (October 1991), solid waste generation by the City in the year 2005 is projected to be 191,917 tons per year. At this rate, the expanded landfill site will give the City a disposal capacity for 547 years. Of course, as the City grows beyond the 2005 projection, the remaining capacity will be reduced at an increasing rate. The exact time of buildout of the City's land use plan is difficult to determine and will be heavily dependant on the real estate market. The expanded landfill should be adequate to serve the solid waste disposal service needs for many years. However, due to the increasing difficulty of siting new landfills, the City should identify potential sites for new landfills and plan for their implementation accordingly.

TABLE 4-19

PROJECTED SOLID WASTE GENERATION

Land Use	Proposed Land Use Plan Buildout
Single-Family Residential	487,895 lbs/day
Multi-Family Residential	220,066 lbs/day
Commercial	259,560 lbs/day
Industrial	6,130,000 lbs/day
Public Facilities	26,992 lbs/day
Total	7,124,513 lbs/day 3,562 tons/day

Source: Michael Brandman Associates 1992.

Recycling and reuse programs that may be established in the future, in compliance with state and local laws, may reduce the amount of solid waste that would have to be disposed of in landfills. As required, 25 percent of all solid waste generated should be recycled by 1995 and 50 percent by 2000. If recycling programs in the City are successful, only 1,781 tons per day of solid waste will be disposed in landfills at buildout.

The proposed land use plan shows urban residential uses along City Ranch Road to the east of the landfill, and along the lower portion of the ridge between the landfill and Tierra Subida Road, and on the City Ranch Specific Plan area. Residents to the east will be subject to traffic, blowing trash, fire hazards, odors, etc. Residents to the south will have impacts on views. Potential impacts of the landfill on adjacent uses include truck traffic, odor, soil contamination, groundwater contamination, noise, views, health risks, and other community concerns. This land use conflict may be mitigated by buffers, operational development standards, and other physical barriers.

The proposed housing programs, circulation plan, and community design guidelines are not expected to generate solid waste nor affect solid waste generation in the Planning Area. The concern for hazardous waste disposal is addressed in Section 4.2.12, Risk of Upset.

Impacts of the proposed land use plan on solid waste disposal are not considered significant for the Planning Area.

Mitigation Measures

The General Plan contains goals, policies, and implementation programs that were established to mitigate the impacts of future development. They are guidelines and actions that will be implemented by the City to address citywide concerns. Although part of the proposed project, these goals, policies, and programs will serve as mitigation measures for the environmental impacts of development under the General Plan. Policies and implementation programs in the Public Services Element, that will help alleviate the impacts of development on solid waste disposal facilities are:

- **Policy PS1.1.6**. When reviewing applications for land use designation changes (i.e., zone change, General Plan Amendment, specific plan amendment), conduct a thorough analysis of the impacts of the proposed change on all elements of the City's infrastructure systems, and require mitigation as deemed appropriate.

- **Policy PS1.4.3**. Adopt, implement, and annually review user fee and impact fee programs, to support the cost of constructing capital facilities and providing services.

- **Policy PS1.4.4**. Explore and implement a variety of public financing methods to fund infrastructure improvements, including assessment districts, Mello-Roos community facilities districts, redevelopment funds, block grant funds, and/or combinations of these and other available funding sources.

- **Policy PS1.5.3**. Coordinate planning issues with outside service provider representatives, such as the school districts, sheriff's department, fire district, water districts, and sanitation district, to promote coordinated master planning for these services.

- **Policy PS6.1.1**. Review proposed development with respect to the Solid Waste Management Plan (SWMP) to ensure consistency.

- **Policy PS6.1.2**. Base future decisions on franchise agreements on the SWMP.

- **Policy PS6.1.3**. Develop and implement waste reduction and recycling programs in compliance with the SWMP.

- **Policy PS6.1.4**. Update and maintain the SWMP as needed, with a complete review at least every five years, to ensure that the plan accurately reflects changing waste stream conditions, government regulations, and city goals.

- **Policy PS6.2.1**. Identify hazardous waste generators and their waste streams by type and quantity, and facilitate the use of appropriate hazardous waste management technology by generators, placing the greatest emphasis on those technologies which achieve source reduction and waste minimization.

- **Policy PS6.2.2**. Ensure that the siting of hazardous waste facilities in the City is consistent with the General Plan, including provisions to ensure protection of residents, businesses, and environmental resources, and provide for the safe transport of wastes.

- **Policy PS6.2.3**. Provide opportunities for public participation in the review of proposed hazardous waste facilities.

- **Policy PS6.2.4**. Facilitate compliance with regulations requiring the preparation of Hazardous Materials Management Plans and Risk Management Prevention Plans, as applicable to handlers of specified hazardous materials and acutely hazardous materials.

- **Policy PS6.2.5**. Facilitate the implementation of programs designed to provide for the safe management of hazardous wastes generated by small quantity generators, including households.

- **Policy PS6.2.6**. Support the regulation and enforcement of hazardous waste laws governing the generation, handling, storage, transport, treatment, and disposal of hazardous waste.

- **Policy PS6.2.7**. Require disclosure of the presence of hazardous materials on property proposed for development.

The following implementation measures, contained in the Public Services Element, will also reduce impacts to solid waste disposal:

A: Data Collection For Service Providers. The City will cooperate with service providers to provide data needed to analyze available capacities and to estimate the demands of proposed projects. In order to ensure adequate provision of public services and utilities, service capacities and future demand should be identified. With this information, the City and other service providers can evaluate the impacts of new development on existing facilities. Expansions and changes in services should be monitored, as should new developments in adjacent areas that are served by the same service provider.

This program should include the following efforts:

2. Current data will be maintained on available capacity of public utilities and services to use in evaluating project demands.

3. When necessary, data will be obtained regarding usage rates of current developments and updates on the capacities of services.

B: California Environmental Quality Act (CEQA) Review. Every proposed project will be evaluated according to CEQA prior to approval. The CEQA process ensures that environmental impacts will be mitigated to a level of non-significance with regard to groundwater resources, public services (schools, libraries, police protection and fire protection), and public utilities. The CEQA process is discussed further in the Environmental Resources Element of the General Plan.

C: Service Commitment.

1. The City will continue to incorporate service commitment requirements into its project review process to ensure the availability of services and utilities to new developments. These written commitments are required for the following services prior to issuance of final maps or building permits:

   f. Solid waste

2. Service commitment requirements shall include the following:

   b. All projects must pay impact fees to ensure provision of adequate services to development.

   c. All relevant service providers shall be notified of pending projects and invited to comment prior to tentative project approval.

E: Development Plan Review. The City's development plan review process shall include:

2. Evaluation of available and future capacities of public services and utilities (as facilitated by service capacity monitoring).

9. Landfill site impact and capacity.

L: Solid Waste Management Plan. The City has adopted required elements of the County's Solid Waste Management Plan to comply with Assembly Bill 939 (AB 939), the California Integrated Waste Management Act of 1989. The AB 939 Act required cities to develop plans to divert 25 percent of all solid waste from landfill disposal by 1995, and a total of 50 percent by the year 2000. The City of Palmdale's plan includes a Source Reduction and Recycling Element, a Household Hazardous Waste Element, and a siting section which identifies criteria for the location of solid waste landfills, transfer stations, recycling centers, and other waste

facilities. The City will implement this plan in all activities related to waste management, and will update the plan as needed.

M: Hazardous Waste Management.

1. The City will prepare and adopt a hazardous waste management plan to comply with state law.

2. The City will require all proposed developments to:

   a. Provide a list of all chemicals that will be used in the construction and operation of the project.

   b. Comply with all existing regulations governing the generation, handling, storage, transport, treatment, and disposal of hazardous wastes.

   c. Identify any hazardous waste existing on a site proposed for development.

These mitigation measures and policies and implementation programs will reduce the impact on solid waste disposal facilities to less than significant levels.

Storm Drainage

Environmental Impacts

The tributary area for storm drainage in Palmdale is not fully contained within City boundaries. Rather, it is part of the entire Antelope Valley system. Buildout of the Planning Area will have a direct impact on the area's drainage flows due to increased density of development.

Development will have significant impacts on stormwater flows unless on-site disposal is provided or storm drain or retention facilities are constructed. The recently adopted Master Drainage Plan is expected to reduce these impacts.

The proposed land use plan will change the requirements for storm drainage facilities in terms of location and sizes. Storm water runoff is dependent on rainfall intensity, tributary land area, percent of impervious area that does not allow water to absorb, and infiltration capacity of the soil. Runoff is generally greater for areas with a higher percent of impervious area such as that associated with high intensity uses. Storm drainage requirements are expected to change as land uses change with individual developments. Hydrologic studies would need to be made prior to development of new areas, which may result in recommended changes to local and regional drainage facilities.

The Circulation Element will provide right-of-ways for construction of new drainage lines serving the area. Coordination of schedules for pipe laying before road pavement would eliminate the road closure and excavation that would occur if pipes are installed after road construction.

The Housing Element will have no impact on storm drainage in the Planning Area.

Buildout of land uses under the proposed General Plan would result in substantial changes to existing levels of runoff. Impacts on storm drainage in the Planning Area are considered significant unless programs in the proposed General Plan and mitigation measures discussed below are implemented.

Mitigation Measures

The General Plan contains goals, policies, and implementation programs that were established to mitigate the impacts of future development. They are guidelines and actions that will be implemented by the City to address citywide concerns. Although part of the proposed project, these goals, policies, and programs will serve as mitigation measures for the environmental impacts of development under the General Plan. Policies and

implementation programs in the Public Services Element which will mitigate impacts on the City's storm drainage system are:

- **Policy PS1.1.1**. Require all new development, including major modifications to existing development, to construct required onsite infrastructure improvements pursuant to city standards.

- **Policy PS1.1.2**. Require all new development, including major modification to existing development, to construct or provide a fair share contribution towards construction of required offsite improvements needed to support the project.

- **Policy PS1.1.3**. Require that on and offsite improvements are constructed prior to occupancy of a new development project, or phase thereof, unless otherwise approved by the City.

- **Policy PS1.1.4**. Require that adequate provisions are made for maintenance of public improvements, prior to approval of any new development project.

- **Policy PS1.1.5**. When new development is proposed in vacant, rural areas which have not yet been master-planned for provision of infrastructure, require that development proponents provide for or contribute a fair share towards development of backbone plans for roads, sewer, water, drainage and community facilities, prior to granting conditional approval of development applications.

- **Policy PS1.1.6**. When reviewing applications for land use designation changes (i.e., zone change, General Plan Amendment, specific plan amendment), conduct a thorough analysis of the impacts of the proposed change on all elements of the City's infrastructure systems, and require mitigation as deemed appropriate.

- **Policy PS1.2.1**. Require that provision of streets, sewer, water, drainage and other needed infrastructure be coordinated in a logical manner between adjacent developments, so as to reduce cost of design, construction, and maintenance.

- **Policy PS1.2.2**. Require that individual development projects integrate with adjacent development with respect to backbone infrastructure (streets, sewer, water, and drainage). If adjacent property is undeveloped, a conceptual plan should be prepared to show that the pending development will allow for future integration and development of adjacent properties in a manner which is reasonable from a design, construction, and cost standpoint.

- **Policy PS1.2.3**. Require that the proposed infrastructure design within a development project permits economical and efficient development of land, both on the subject property and on adjacent properties.

- **Policy PS1.2.4**. Require that phasing of infrastructure requirements within a development consider adjacent properties to the extent feasible.

- **Policy PS1.2.5**. Require that infrastructure be designed and constructed to meet ultimate capacity needs, pursuant to a master plan, so as to avoid the need for costly retrofitting.

- **Policy PS1.2.6**. Where feasible, require that consideration be given to sharing drainage detention facilities between adjacent subdivisions, with the cost shared on a "fair share" basis.

- **Policy PS1.2.7**. Ensure that street rights-of-way, drainage facilities, or other similar public infrastructure are not aligned in a manner that increases the developability of single property at the expense of an adjacent property, unless so required by regional infrastructure plans.

- **Policy PS1.2.8**. Distribute the costs of extending infrastructure equitably among those benefiting from the improvements.

- **Policy PS1.3.4**. Encourage clustering of development where appropriate, to maximize use of infrastructure.

- **Policy PS1.3.5**. Adopt comprehensive planning documents such as area plans, specific plans, and development agreements, to specify the nature, timing, and financing of public improvements and services.

- **Policy PS1.4.1**. Adopt and annually update the city's Capital Improvement Program (CIP) to prioritize funding for public works projects in accordance with this General Plan.

- **Policy PS1.4.2**. Adopt and implement service level standards for roads, drainage, and park facilities, through ongoing monitoring of existing levels of service and through the Capital Improvement Program (CIP).

- **Policy PS1.4.3**. Adopt, implement, and annually review user fee and impact fee programs to support the cost of constructing capital facilities and providing services.

- **Policy PS1.4.4**. Explore and implement a variety of public financing methods to fund infrastructure improvements, including assessment districts, Mello-Roos community facilities districts, redevelopment funds, block grant funds, and/or combinations of these and other available funding sources.

- **Policy PS1.4.7**. Evaluate infrastructure facilities and service levels within developed areas which annex to the city, and promote programs to retrofit street, drainage, and sewer improvements where warranted.

- **Policy PS3.1.1**. Continue the drainage impact fee program and periodically adjust fees as needed.

- **Policy PS3.1.2.** Evaluate the impact of all new development and expansion of existing facilities on storm runoff and ensure that the cost of upgrading existing drainage facilities to handle the additional runoff is paid for by the development which generates it.

- **Policy PS3.1.3.** Make use of interim local drainage detention basins to slow stormwater runoff, until such time as permanent drainage facilities are constructed.

- **Policy PS3.1.4.** Through the development review process, reserve land from development in appropriate locations for construction of drainage facilities.

- **Policy PS3.1.5.** Require and provide for ongoing maintenance of drainage and detention facilities, to ensure their continued effectiveness in controlling runoff.

- **Policy PS3.2.1.** Where feasible, plan for detention or retention facilities in areas where groundwater recharge can be accomplished.

- **Policy PS3.2.2.** Where feasible, construct drainage facilities so as to protect or enhance natural riparian habitat areas.

- **Policy PS3.2.3.** Where feasible, combine drainage facilities with opportunities for recreation, as in placement of trails within drainage easements, or placement of ball fields within detention areas.

- **Policy PS5.4.7.** Where feasible, utilize parks for joint use as flood control facilities.

The following implementation measures, contained in the Public Services Element, will also reduce impacts to drainage facilities:

A: Data Collection For Service Providers. The City will cooperate with service providers to provide data needed to analyze available capacities and to estimate the demands of proposed projects. In order to ensure adequate provision of public services and utilities, service capacities and future demand should be identified. With this information, the City and other service providers can evaluate the impacts of new development on existing facilities. Expansions and changes in services should be monitored, as should new developments in adjacent areas that are served by the same service provider.

This program should include the following effort:

5. Master plans for sewers, water, schools, libraries and other facilities will be retained on file for evaluation and monitoring purposes.

B: California Environmental Quality Act (CEQA) Review. Every proposed project will be evaluated according to CEQA prior to approval. The CEQA process ensures that environmental impacts will be mitigated to a level of non-significance with regard to groundwater resources, public services (schools, libraries, police protection and fire protection), and public utilities. The CEQA process is discussed further in the Environmental Resources Element of the General Plan.

D: Capital Improvement Program. The City will include public facility expansions in its Capital Improvement Program (CIP). The program's priorities shall be coordinated with anticipated developments to ensure that infrastructure and facilities are constructed where and when they are needed.

E: Development Plan Review. The City's development plan review process shall include:

3. Review of impacts on groundwater recharge areas.

5. Existence of, or plans for, adequate drainage facilities.

F: Master Facility Planning. The City will cooperate in planning for the expansion of public services and utilities that serve the area. The City may recommend programs or measures that will serve service the best interests of the City. In addition, the City will promote coordinated infrastructure planning to provide shared corridors for various facilities, to minimize visual and environmental impacts and required easements.

J: Master Drainage Plan. The City will maintain and implement the master drainage plan, to provide the City with a comprehensive storm drainage system.

K: Floodplain Standards. The City will review development proposals for compliance with floodplain standards as contained in the Safety Element, to reduce hazards due to flooding.

Residential development will be prohibited in floodplain areas unless the flood hazard has been adequately mitigated.

The capture and utilization of flood waters for groundwater recharge will be explored.

S: Facility Fees and Charges. Facility fees and charges will be imposed on new developments pursuant to city ordinances. Facility fees and charges may be established for developments to pay for the infrastructure and services that will be needed to maintain the project.

T: Provision For Public Financing Of Infrastructure. The City may assist in financing of infrastructure needed to support new development through establishment of special financing districts, where appropriate.

Additional policies and programs that would reduce drainage impacts are contained in the Environmental Resources Element.

Implementation of the policies and implementation programs will reduce the impact on storm drainage and storm drain facilities to a less than significant level.

Power

Environmental Impacts

The Planning Area and surrounding communities are served by the Southern California Edison Company. The increase in the size of the Planning Area will not have any direct impact on the demands for electric power. However, the anticipated increase in residential and nonresidential development would substantially increase power usage. Table 4-26 estimates power usage at buildout. A total of 6,731.9 million kilowatt hours per year will be consumed by anticipated development at buildout of the General Plan. This represents an increase of approximately 19 times the current consumption of 353 million kilowatt hours per year.

The Southern California Edison Company provides electrical services upon demand. Although SCE states that the utility will be able to provide electrical service to all new customers, substantial portion of SCE's electrical sources are from non-renewable sources. The anticipated consumption of approximately 6,731.9 kilowatt hours of electricity annually by the Palmdale Planning Area at buildout would be considered a significant, impact due to the amount of increase and the accompanying reduction of natural resources. Impacts of individual developments would have to be evaluated upon submission of development plans to estimate if existing facilities could accommodate the projected power demand. Otherwise, upgrading of equipment or facilities would have be made prior to project development. It should be noted that this increased usage would occur gradually over several decades as the Planning Area develops. It is anticipated that new, renewable sources of energy and methods of increased energy efficiency would develop during this time period.

TABLE 4-20

PROJECTED POWER CONSUMPTION AT BUILDOUT

Land Use	Buildout	Annual Consumption Factor[a]	Power Consumption
Residential	139,205 du	6,081 kWh/du	846.5 million kWh
Commercial[b]	55.71 million sq ft	8.8 kWh/sq ft	490.2 million kWh
Industrial[c]	613.09 million sq ft	8.8 kWh/sq ft	5,395.2 million kWh
Total			6,731.9 million kWh

[a] Based on generalized factors from "Common Forecasting Methodology VI, Demand Forecast," SCE 1985.
[b] Includes public facilities development.
[c] Includes airport and related development.

Source: Michael Brandman Associates 1992.

The proposed housing programs (such as HUD-leased housing, Section 8 rental subsidy), circulation plan, and design guidelines are not expected to generate any demand for power use other than those considered in the land use plan and, thus, will have no impact on power sources or the service provider.

Impacts on electrical facilities are not considered significant due to the utility's anticipation of future growth. However, the impact of increased power usage on nonrenewable power sources are considered significant.

Mitigation Measures

The General Plan contains goals, policies, and implementation programs that were established to mitigate the impacts of future development. They are guidelines and actions that will be implemented by the City to address citywide concerns. Although part of the proposed project, these goals, policies, and programs will serve as mitigation measures for the environmental impacts of development under the General Plan. Policies and implementation programs in the Public Services Element which would help mitigate the impacts of development on electric power service are:

- **Policy PS1.1.1.** Require all new development, including major modifications to existing development, to construct required onsite infrastructure improvements pursuant to city standards.

- **Policy PS1.1.2.** Require all new development, including major modification to existing development, to construct or provide a fair share contribution towards construction of required offsite improvements needed to support the project.

- **Policy PS1.1.3.** Require that on and offsite improvements are constructed prior to occupancy of a new development project, or phase thereof, unless otherwise approved by the City.

- **Policy PS1.1.4.** Require that adequate provisions are made for maintenance of public improvements, prior to approval of any new development project.

- **Policy PS1.1.5.** When new development is proposed in vacant, rural areas which have not yet been master-planned for provision of infrastructure, require that development proponents provide for or contribute a fair share towards development of backbone plans for roads, sewer, water, drainage and community facilities, prior to granting conditional approval of development applications.

- **Policy PS1.2.2.** Require that individual development projects integrate with adjacent development with respect to backbone infrastructure (streets, sewer, water, and drainage). If adjacent property is undeveloped, a conceptual plan should be prepared to show that the pending development will allow for future integration and development of adjacent properties in a manner which is reasonable from a design, construction, and cost standpoint.

- **Policy PS1.2.8**. Distribute the costs of extending infrastructure equitably among those benefiting from the improvements.

- **Policy PS1.6.1**. Through adoption of an ordinance, regulate utility line and other utility infrastructure placement and require undergrounding in specified locations where feasible.

- **Policy PS1.6.2**. Coordinate installation of utility line placement with street construction where possible, to minimize cost.

- **Policy PS1.6.3**. Through the development review process, protect existing utility easements and require dedication of additional easements where needed.

The following implementation measures, contained in the Public Services Element, will also reduce impacts to electrical power resources:

A: Data Collection For Service Providers. The City will cooperate with service providers to provide data needed to analyze available capacities and to estimate the demands of proposed projects. In order to ensure adequate provision of public services and utilities, service capacities and future demand should be identified. With this information, the City and other service providers can evaluate the impacts of new development on existing facilities. Expansions and changes in services should be monitored, as should new developments in adjacent areas that are served by the same service provider.

This program should include the following effort:

2. Current data will be maintained on available capacity of public utilities and services to use in evaluating project demands.

3. When necessary, data will be obtained regarding usage rates of current developments and updates on the capacities of services.

B: California Environmental Quality Act (CEQA) Review. Every proposed project will be evaluated according to CEQA prior to approval. The CEQA process ensures that environmental impacts will be mitigated to a level of non-significance with regard to groundwater resources, public services (schools, libraries, police

protection and fire protection), and public utilities. The CEQA process is discussed further in the Environmental Resources Element of the General Plan.

C: Service Commitment.

1. The City will continue to incorporate service commitment requirements into its project review process to ensure the availability of services and utilities to new developments. These written commitments are required for the following services prior to issuance of final maps or building permits:

   d. Power

2. Service commitment requirements shall include the following:

   d. Service commitment letters from all relevant utility companies will be required prior to issuance of building permits.

E: Development Plan Review. The City's development plan review process shall include:

2. Evaluation of available and future capacities of public services and utilities (as facilitated by service capacity monitoring).

6. Utility line easements and facilities design.

Q: Public Awareness Programs. The City will promote public awareness programs to solicit citizen involvement in reducing the demands for public services and utilities. Awareness can lead to voluntary action, support, active participation in programs, and an understanding of community and regional issues that affect the City. These programs may include but not be limited to:

- Energy conservation

- Water conservation
- Recycling programs
- Educational programs
- Other community programs

As appropriate, the City of Palmdale will require the implementation of policies and implementation programs to mitigate the impacts on power services of individual developments under the proposed Land Use Plan.

Implementation of these policies, and implementation programs, will facilitate the reduction of the impact on power services to a less significant level.

Natural Gas

Environmental Impacts

Development under the proposed land use plan will increase natural gas consumption because of the increase in dwelling units and building square footage. Commercial and industrial usage depends on the type of land use and the specific equipment used. A consumption of 1,095 therms per year per single-family residential unit translates to 9,125 cubic feet per month (1 therm = 100 cubic feet).

Table 4-21 provides an estimate of natural gas demand at buildout of the proposed land use plan using generalized factors. The Gas Company states that the utility will be able to provide natural gas service to all new customers. Since natural gas is a non-renewable resource, the consumption of approximately 2,984 million cubic feet per month of natural gas at buildout of the Palmdale Planning Area, would be considered a significant impact due to the irretrievable loss of natural resources. The Southern California Gas Company has met service demands in the past and expects to meet obligations in the future. The increased usage would occur gradually over time as the area develops. It is anticipated that additional renewable sources of power would become available in the future, which would reduce the population's reliance on natural gas.

Implementation of the housing programs and circulation plan are not expected to increase gas consumption in the Planning Area. They would not have any impact on natural gas provision.

Because of the growth anticipated under the proposed general plan, impacts on the provision of gas services are not considered significant. Programs in the proposed General Plan and mitigation measures to reduce natural gas impacts are discussed below.

TABLE 4-21

PROJECTED NATURAL GAS CONSUMPTION

Land Use	Buildout	Consumption Factor	Annual Gas Consumption (million cf/mo)
Single-Family Residential	99,193 du	6,665 cf/mo/du	661
Multi-Family Residential[a]	40,012 du	4,012 cf/mo/du[b]	161
Commercial[c]	55.71 million sf	2.5 cf/mo/sf[d]	139
Industrial[e]	613.09 million sf	3.3 cf/mo/sf	2,023
Total Natural Gas Consumption			2,984

[a] Includes mobilehome units.
[b] Represents average multi-family consumption rate.
[c] Includes public facility development.
[d] Represents average commercial (office and retail) rate.
[e] Includes airport-related development.

Source: Michael Brandman Associates 1992.

Mitigation Measures

The General Plan contains goals, policies, and implementation programs that were established to mitigate the impacts of future development. They are guidelines and actions that will be implemented by the City to address

citywide concerns. Although part of the proposed project, these goals, policies, and programs will serve as mitigation measures for the environmental impacts of development under the General Plan. Policies and implementation programs in the Public Services Element which relate to natural gas provision and which will improve natural gas provision in the Planning Area are:

- **Policy PS1.1.1**. Require all new development, including major modifications to existing development, to construct required onsite infrastructure improvements pursuant to city standards.

- **Policy PS1.1.2**. Require all new development, including major modification to existing development, to construct or provide a fair share contribution towards construction of required offsite improvements needed to support the project.

- **Policy PS1.1.3**. Require that on and offsite improvements are constructed prior to occupancy of a new development project, or phase thereof, unless otherwise approved by the City.

- **Policy PS1.1.4**. Require that adequate provisions are made for maintenance of public improvements, prior to approval of any new development project.

- **Policy PS1.1.5**. When new development is proposed in vacant, rural areas which have not yet been master-planned for provision of infrastructure, require that development proponents provide for or contribute a fair share towards development of backbone plans for roads, sewer, water, drainage and community facilities, prior to granting conditional approval of development applications.

- **Policy PS1.2.2**. Require that individual development projects integrate with adjacent development with respect to backbone infrastructure (streets, sewer, water, and drainage). If adjacent property is undeveloped, a conceptual plan should be prepared to show that the pending development will allow for future integration and development of adjacent properties in a manner which is reasonable from a design, construction, and cost standpoint.

- **Policy PS1.2.8**. Distribute the costs of extending infrastructure equitably among those benefiting from the improvements.

- **Policy PS1.6.1**. Through adoption of an ordinance, regulate utility line and other utility infrastructure placement and require undergrounding in specified locations where feasible.

- **Policy PS1.6.2**. Coordinate installation of utility line placement with street construction where possible, to minimize cost.

- **Policy PS1.6.3**. Through the development review process, protect existing utility easements and require dedication of additional easements where needed.

The following implementation measures, contained in the Public Services Element, will also reduce impacts to natural gas resources:

A: Data Collection For Service Providers. The City will cooperate with service providers to provide data needed to analyze available capacities and to estimate the demands of proposed projects. In order to ensure adequate provision of public services and utilities, service capacities and future demand should be identified. With this information, the City and other service providers can evaluate the impacts of new development on existing facilities. Expansions and changes in services should be monitored, as should new developments in adjacent areas that are served by the same service provider.

This program should include the following effort:

2. Current data will be maintained on available capacity of public utilities and services to use in evaluating project demands.

3. When necessary, data will be obtained regarding usage rates of current developments and updates on the capacities of services.

B: California Environmental Quality Act (CEQA) Review. Every proposed project will be evaluated according to CEQA prior to approval. The CEQA process ensures that environmental impacts will be mitigated to a level of non-significance with regard to groundwater resources, public services (schools, libraries, police protection and fire protection), and public utilities. The CEQA process is discussed further in the Environmental Resources Element of the General Plan.

C: Service Commitment.

1. The City will continue to incorporate service commitment requirements into its project review process to ensure the availability of services and utilities to new developments. These written commitments are required for the following services prior to issuance of final maps or building permits:

   c. Natural gas service

2. Service commitment requirements shall include the following:

   d. Service commitment letters from all relevant utility companies will be required prior to issuance of building permits.

E: Development Plan Review. The City's development plan review process shall include:

2. Evaluation of available and future capacities of public services and utilities (as facilitated by service capacity monitoring).

6. Utility line easements and facilities design.

Q: Public Awareness Programs. The City will promote public awareness programs to solicit citizen involvement in reducing the demands for public services and utilities. Awareness can lead to voluntary action, support, active participation in programs, and an understanding of community and regional issues that affect the City. These programs may include but not be limited to:

- Energy conservation
- Educational programs
- Other community project

While the General Plan policies and programs will reduce impacts on the provision of natural gas service to less than significant levels, impacts to the supply of natural gas, a non-renewable resource, will remain significant.

New breakthroughs in efficient appliances and other technologies can be expected to reduce the City's projected gas consumption in years to come.

Telephone

Environmental Impacts

Telephone services are provided by private utility companies which will be impacted by the growth anticipated with expansion of the Palmdale Planning Area. The proposed land use plan designates new land uses for the area. This may alter estimated call loads in residential and industrial areas at buildout. In currently vacant areas, no telephone lines exist. Development will mean the installation of additional telephone lines and new facilities to serve the Planning Area. As this service is provided upon demand, no unavoidable adverse impacts are anticipated with the proposed land use plan.

The proposed housing program and circulation plan will not have any impact on telephone services in the Planning Area. The community design guidelines call for underground utility lines which will improve streetscapes.

Growth anticipated with the proposed land use plan is not anticipated to significantly impact telephone services. Programs in the proposed General Plan and mitigation measures discussed below shall be implemented to minimize impacts.

Mitigation Measures

The General Plan contains goals, policies, and implementation programs that were established to mitigate the impacts of future development. They are guidelines and actions that will be implemented by the City to address citywide concerns. Although part of the proposed project, these goals, policies, and programs will serve as mitigation measures for the environmental impacts of development under the General Plan. The Public Services Element of the General Plan contains policies and programs to regulate telephone services in the area which would reduce the impact to the provision of this service; they are:

- **Policy PS1.1.1**. Require all new development, including major modifications to existing development, to construct required onsite infrastructure improvements pursuant to city standards.

- **Policy PS1.1.2**. Require all new development, including major modification to existing development, to construct or provide a fair share contribution towards construction of required offsite improvements needed to support the project.

- **Policy PS1.1.3**. Require that on and offsite improvements are constructed prior to occupancy of a new development project, or phase thereof, unless otherwise approved by the City.

- **Policy PS1.1.4**. Require that adequate provisions are made for maintenance of public improvements, prior to approval of any new development project.

- **Policy PS1.1.5**. When new development is proposed in vacant, rural areas which have not yet been master-planned for provision of infrastructure, require that development proponents provide for or contribute a fair share towards development of backbone plans for roads, sewer, water, drainage and community facilities, prior to granting conditional approval of development applications.

- **Policy PS1.2.2**. Require that individual development projects integrate with adjacent development with respect to backbone infrastructure (streets, sewer, water, and drainage). If adjacent property is undeveloped, a conceptual plan should be prepared to show that the pending development will allow for future integration and development of adjacent properties in a manner which is reasonable from a design, construction, and cost standpoint.

- **Policy PS1.2.8**. Distribute the costs of extending infrastructure equitably among those benefiting from the improvements.

- **Policy PS1.6.1**. Through adoption of an ordinance, regulate utility line and other utility infrastructure placement and require undergrounding in specified locations where feasible.

- **Policy PS1.6.2**. Coordinate installation of utility line placement with street construction where possible, to minimize cost.

- **Policy PS1.6.3**. Through the development review process, protect existing utility easements and require dedication of additional easements where needed.

The following implementation measures, contained in the Public Services Element, will also reduce impacts to telephone service:

A: Data Collection For Service Providers. The City will cooperate with service providers to provide data needed to analyze available capacities and to estimate the demands of proposed projects. In order to ensure adequate provision of public services and utilities, service capacities and future demand should be identified. With this information, the City and other service providers can evaluate the impacts of new development on existing facilities. Expansions and changes in services should be monitored, as should new developments in adjacent areas that are served by the same service provider.

This program should include the following effort:

2. Current data will be maintained on available capacity of public utilities and services to use in evaluating project demands.

3. When necessary, data will be obtained regarding usage rates of current developments and updates on the capacities of services.

B: California Environmental Quality Act (CEQA) Review. Every proposed project will be evaluated according to CEQA prior to approval. The CEQA process ensures that environmental impacts will be mitigated to a level of non-significance with regard to groundwater resources, public services (schools, libraries, police protection and fire protection), and public utilities. The CEQA process is discussed further in the Environmental Resources Element of the General Plan.

C: Service Commitment.

1. The City will continue to incorporate service commitment requirements into its project review process to ensure the availability of services and utilities to new developments. These written commitments are required for the following services prior to issuance of final maps or building permits:

   e. Telephone

2. Service commitment requirements shall include the following:

d. Service commitment letters from all relevant utility companies will be required prior to issuance of building permits.

E: Development Plan Review. The City's development plan review process shall include:

2. Evaluation of available and future capacities of public services and utilities (as facilitated by service capacity monitoring).

6. Utility line easements and facilities design.

Implementation of these mitigation measures will reduce potential impacts to a less than significant level.

Cable

Environmental Impacts

The expansion of the Palmdale Planning Area would not adversely affect the provision of cable television in the area. The proposed land use plan is unlikely to have an impact on existing cable television, except for increased demand and modifying areas where service demand may occur. Additional lines will be installed as service demand increases.

The proposed housing program and circulation plan are not expected to affect cable television service. The community design guidelines require the undergrounding of utility lines. This could increase the cost of service provision in the Planning Area.

Impacts on cable services are not considered significant, because services can be readily provided. However, programs in the proposed General Plan and mitigation measures discussed below shall be implemented to minimize potential impacts.

Mitigation Measures

The General Plan contains goals, policies, and implementation programs that were established to mitigate the impacts of future development. They are guidelines and actions that will be implemented by the City to address citywide concerns. Although part of the proposed project, these goals, policies, and programs will serve as mitigation measures for the environmental impacts of development under the General Plan. Policies and implementation programs contained in the Public Services Element that will improve cable service in the area are:

- **Policy PS1.1.1**. Require all new development, including major modifications to existing development, to construct required onsite infrastructure improvements pursuant to city standards.

- **Policy PS1.1.2**. Require all new development, including major modification to existing development, to construct or provide a fair share contribution towards construction of required offsite improvements needed to support the project.

- **Policy PS1.1.3**. Require that on and offsite improvements are constructed prior to occupancy of a new development project, or phase thereof, unless otherwise approved by the City.

- **Policy PS1.1.4**. Require that adequate provisions are made for maintenance of public improvements, prior to approval of any new development project.

- **Policy PS1.1.5**. When new development is proposed in vacant, rural areas which have not yet been master-planned for provision of infrastructure, require that development proponents provide for or contribute a fair share towards development of backbone plans for roads, sewer, water, drainage and community facilities, prior to granting conditional approval of development applications.

- **Policy PS1.2.2**. Require that individual development projects integrate with adjacent development with respect to backbone infrastructure (streets, sewer, water, and drainage). If adjacent property is undeveloped, a conceptual plan should be prepared to show that the pending development will allow for future integration and development of adjacent properties in a manner which is reasonable from a design, construction, and cost standpoint.

- **Policy PS1.2.8**. Distribute the costs of extending infrastructure equitably among those benefiting from the improvements.

- **Policy PS1.6.1**. Through adoption of an ordinance, regulate utility line and other utility infrastructure placement and require undergrounding in specified locations where feasible.

- **Policy PS1.6.2**. Coordinate installation of utility line placement with street construction where possible, to minimize cost.

- **Policy PS1.6.3**. Through the development review process, protect existing utility easements and require dedication of additional easements where needed.

The following implementation measures, contained in the Public Services Element, will also reduce impacts to cable service:

A: Data Collection For Service Providers. The City will cooperate with service providers to provide data needed to analyze available capacities and to estimate the demands of proposed projects. In order to ensure adequate provision of public services and utilities, service capacities and future demand should be identified. With this information, the City and other service providers can evaluate the impacts of new development on existing facilities. Expansions and changes in services should be monitored, as should new developments in adjacent areas that are served by the same service provider.

This program should include the following effort:

2. Current data will be maintained on available capacity of public utilities and services to use in evaluating project demands.

3. When necessary, data will be obtained regarding usage rates of current developments and updates on the capacities of services.

B: California Environmental Quality Act (CEQA) Review. Every proposed project will be evaluated according to CEQA prior to approval. The CEQA process ensures that environmental impacts will be mitigated to a level of non-significance with regard to groundwater resources, public services (schools, libraries, police protection and fire protection), and public utilities. The CEQA process is discussed further in the Environmental Resources Element of the General Plan.

C: Service Commitment.

2. Service commitment requirements shall include the following:

   d. Service commitment letters from all relevant utility companies will be required prior to issuance of building permits.

E: Development Plan Review. The City's development plan review process shall include:

2. Evaluation of available and future capacities of public services and utilities (as facilitated by service capacity monitoring).

6. Utility line easements and facilities design.

Implementation of the policies and implementation programs will reduce any potential impacts to less than significant levels.

4.2.12 RISK OF UPSET

Earthquake Hazards

Earthquake Planning Scenario

The prospect of a major earthquake along the south-central San Andreas Fault has been a source of concern in public policy for many years. The Federal Emergency Management Agency (FEMA) published a report in January 1981, which concluded that a catastrophic earthquake with a magnitude of 8.3 or greater will occur on the south-central San Andreas Fault before the end of the 20th century.

As a result of the FEMA report, the California State Division of Mines and Geology published a follow-up study depicting a possible disaster scenario that could happen from a catastrophic earthquake in northern and southern California. In the event of an earthquake of this magnitude, there will be an interruption of ground transportation, communications, water supply, sewage treatment, electricity, and pipeline distribution of natural gas and petroleum. These circumstances will compound the problem of providing medical aid and search-and-rescue services to the stricken areas.

The amount of ground shaking expected at a site is commonly expressed in terms of acceleration of gravity. Ground acceleration is the rate of increase of speed of the ground, where each change in rate acts as a force on a structure. Acceleration at a building site can vary from weak, or none, to forceful depending on: (1) the distance to the fault, (2) the magnitude of the earthquake, and (3) the local geology. Only one of these conditions have to be met for a high ground acceleration. Intensity measures ground acceleration by evaluating damage to structures, changes in the earth's surface, and personal accounts. Due to its proximity to the San Andreas Fault, the Planning Area will experience intensities of IX or greater during a magnitude 8.3 event. This indicates a ground acceleration of approximately 0.6 gravity. When subjected to this amount of force, well designed framed structures may be shifted off their foundations and substantial buildings may suffer partial collapse. The following describes what is expected to happen in the Palmdale area after the occurrence of a major earthquake on the San Andreas Fault (California Division of Mines and Geology, Earthquake Planning Scenario 1982).

Highways: The Antelope Valley Freeway would be closed by failure of one or more overpasses, rockfalls, and fault rupture. All of the secondary mountain roads between the high desert and the urban areas to the south would be closed until cleared of rockfalls and slides. The Antelope Valley Freeway (SR-14) is the main access route between the Antelope Valley and the urban areas of Los Angeles. This route would be closed for 72 hours. Secondary routes paralleling SR-14 between Santa Clarita and Palmdale should be examined for possible utilization as an alternative to the freeway, including Sierra Highway and Soledad Canyon Road.

Sierra Highway would be closed between Pearblossom Highway and Avenue S and Pearblossom Highway (SR-138) would be closed between Sierra Highway and Route 138 due to major damage resulting from fault rupture. Both routes would be closed for over 72 hours. SR-138 would be closed from SR-14 to Interstate 15 by damage and roadway obstructions. This route would be closed for 72 hours.

Lake Hughes Road would be closed from Elizabeth Lake Road to County Route N2 due to rockfalls and slides, for over 72 hours. County Route N2 would also be closed for about 72 hours from Three Points to Lake Hughes Road.

County Route N3/Angeles Forest Highway would be temporarily closed from Mt. Gleason Road to SR-14 by minor slides and rocks on the roadway.

USAF Plant 42: USAF Plant 42 is expected to remain open, although major damage to its buildings would occur. Runways would be operational and capable of handling the largest aircraft.

Railroads: The Southern Pacific rail lines crossing the San Andreas Fault near Palmdale would suffer major damage and may be closed for 72 hours. Other lines from Acton to Lancaster would be disrupted due to intense ground shaking. Also, rail lines from Palmdale to Interstate 15 in the east would be disrupted due to track displacement and settlement of bridge-approach fills.

Communications: Telephone communications would be adversely affected due to well-known overloading effects resulting from post earthquake calls within and from outside the area. This would be further complicated by physical damage to some of the equipment due to ground shaking and some loss of service due to local loss of electrical power.

Various components of a radio system (consoles, base stations, repeaters, antennas) would fail and recover differentially. Thus, there would not be a total failure of the system. For the first 12 hours, radio systems would operate at 40 percent effectiveness and would increase to 50 percent for the second 12 hours, then decline to 40 percent within 36 hours.

Water Supply: A catastrophic earthquake would cause major damage to both the California Aqueduct and Lake Palmdale, which are primary sources of water for the Planning Area. Water use in Palmdale is derived from groundwater wells and the Aqueduct. The major reservoirs storing imported water may not be able to deliver water due to damage to downstream transmission facilities. It is expected that residents would have to use conservation measures, and daily water usage would be reduced by approximately 50 percent.

Dam Inundation: Ground movement from an earthquake may cause the rupture of dams in the Planning Area. Rupture of the Lake Palmdale Dam or the Little Rock Dam may result in area flooding as shown in Exhibit 3-16. Flood waters could be as deep as 50 feet immediately below Little Rock Dam. Failure of the Little Rock Dam would result in the inundation of a 300-foot wide area for 0.25 mile north of the dam. Along this length, the water depth would vary from 50 to 15 feet. Ten minutes after failure, the water would turn eastward for 800 feet to Avenue U where the depth would be reduced to 10 feet. Flowing north again, the water would dissipate so that the depth is no longer a risk to developments.

Aside from dam failure and subsequent flooding, a seismic water wave may occur at Lake Palmdale. The wave could run up the slope and overtop the dam. The design report for the Lake Palmdale Dam says a reflection of the wave on return is unlikely. The wave volume above the dam would not be substantial enough to cause damaging floods (approximately 1 acre-foot). Flooding over the downstream side of the dame would not cause damage to the existing rockfill, as it was designed to withstand it. The Sheriff's Department is assigned with notification and evacuation procedures in the event of dam failure.

Aqueduct Failure: In the event of a large magnitude earthquake on the San Andreas Fault, some portions of the California Aqueduct are likely to fail. The east branch of the Aqueduct is highly vulnerable to widespread damage because it closely parallels the San Andreas Fault for over 100 kilometers. Moreover, the east branch crosses the fault at two locations near Palmdale (Leona Siphon and Barrel Springs). The Department of Water Resources (DWR) has installed flood control gates to mitigate for structural failure. By closing the gates upstream, the section of the canal in the Planning Area would be isolated and would not receive water. Aqueduct water present during failure would be diverted to canal pools which serve as detention basins. The ten pools within the Planning Area have varying storage capacities and locations as indicated by Table 4-22.

TABLE 4-22

AQUEDUCT POOLS

Pool Number	Storage Acre-Feet	Capacity Million Gallons	Location
49	283	92.2	70th Street West at Avenue N to the Ritter Siphon
50	474	154.4	Quartz Hill where 50th Street West crosses the Aqueduct
51[a]	23	7.5	On the San Andreas Fault between Ritter Siphon and Leona Siphon
52	138	45.0	Platt Ranch west of Lake Palmdale
53	449	146.3	At Soledad Siphon, upstream of the Palmdale Reservoir
54[a]	189	61.5	30th Street East at Barrel Springs Road
55	258	84.1	Where Cheseborough Road crosses the aqueduct, at the Cheseborough Siphon
56	170	55.4	Little Rock Siphon
Total	1,984	646.4	

[a] Where the California Aqueduct crosses the San Andreas Fault; the Aqueduct just south of the Leona Siphon and near Barrel Springs will be severely damaged by fault rupture.

Source: Department of Water Resources.

The Aqueduct is a risk to proximate land uses. Exhibit 3-17 depicts the direction of flow from the pools and the Aqueduct fault crossings at Leona Siphon and Barrel Springs. The extent and rate of inundation is speculative since the amount of water in the aqueduct varies between seasons and years. Factors that would affect the size and extent of flooding include: structural failure of the aqueduct and pools while the aqueduct is operating at full capacity; drainage of adjacent pools outside the Planning Area; and, potential emergency power failure, causing the Aqueduct gates to not close or close fast enough.

Utilities: Wastewater treatment plants may shut down due to damage in oxidation ponds and chlorine tanks causing potential gas leaks. Sewage overflow into street drains or clogging pipes would pose a health hazard. The electrical substations located near the San Andreas Fault would be out of service for an extended period of time due to major damage to these systems. A number of damaged or collapsed towers are expected along major electric transmission routes near Tejon Pass, Portal Ridge, and Littlerock. Fault rupture would sever the imported natural gas supplies from the San Joaquin Valley that cross the fault near Tejon Pass and the two 30-inch lines that run along Avenue S and cross the fault south of Palmdale. These lines would be shut off automatically. Underground storage facilities within the area would continue to provide gas until repairs are made.

Structures and Critical Facilities: Evaluation by the State Office of Emergency Services of the natural hazard vulnerability of structures and facilities in the planning area shows that resistance to earthquake loads is generally poor to very poor for Palmdale's structures. The proximity of the San Andreas Fault subjects building sites to high ground accelerations. Of particular concern are hospitals, fire stations, and police stations which are expected to be functional to serve residents in danger or with injury in case of an earthquake. Although these facilities are built according to local and state building codes, they may sustain structural damage when exposed to ground acceleration of 0.6 gravity.

Critical facilities found within a half-mile of the San Andreas Fault include the Palmdale Hospital, Tumbleweed Elementary School, and Saint Mary's Catholic School. The Palmdale Hospital has poor resistance to earthquake loads and is expected to lose 56 percent of its capacity (69 beds of 123 beds) due to structural damage.

Because schools have been designated as emergency evacuation centers, their structural stability is of primary concern. Buildings at the Tumbleweed Elementary School either have poor or very poor resistance to earthquakes. Saint Mary's Catholic School is also judged to have poor resistance. These facilities would need to be relocated away from the San Andreas Fault zone and built with greater resistance to groundshaking and faulting if they are expected to function as emergency shelters after a major earthquake.

Fire stations 24, 37, 114, and 92 are essential disaster services but a study by the Office of Emergency Services show that these structures have fair or poor resistance to earthquake loads. The buildings would need to be modified for better resistance to withstand a major earthquake in the area. Also, emergency operation plans should be reviewed annually by these stations and drills and briefings conducted to keep firefighters prepared and ready at all times.

Environmental Impacts

The extension of the City's Planning Area will require additional emergency planning for the City. Emergency programs may have to be expanded but may not require modification. A part of the new Planning Area is within an Alquist-Priolo Special Study Zone (APSSZ). Development approval within this zone shall be processed in accordance with state and city guidelines that require geologic investigation and earthquake safety construction.

The proposed land use plan would change the nature of earthquake hazards in the Planning Area. Land use designations for areas within the APSSZ are primarily low-density residential and residential Specific Plan areas, with small portions designated for commercial, parks, public facilities, and higher density residential uses. Buildout of those areas with a residential designation would have a significant impact by exposing more residents to earthquake hazards. Guidelines would need to be strictly followed to prevent construction over the fault. Specifically, the APSSZ prohibits building within 50 feet on either side of the fault. No critical facility shall be planned within the special study zone of the San Andreas Fault. This will ensure that these facilities are functional and available to help residents in the event of a major earthquake.

High-density land uses are found along Palmdale Boulevard and around the Antelope Valley Freeway, well away from earthquake faults. Low employee occupancy commercial and industrial uses are also concentrated around USAF Plant 42 and the proposed regional airport. This minimizes hazards to large numbers of people and eliminates the risk of hazardous material accidents in case of an earthquake, thus, reducing the risk to these residents and employees to a less than significant level.

Designations within the dam inundation area of Lake Palmdale and Little Rock Dam are single- and multi-family residential and low-density residential and mineral resource extraction areas, respectively. The maximum flood elevation is expected to be one-half foot east of Sierra Highway and 5 feet immediately adjacent to Lake Palmdale. Dam failure during an earthquake would compound the threats to life and property for people within these areas.

Risks to future development from earthquake hazards are considered significant.

Mitigation Measures

The General Plan contains goals, policies, and implementation programs that were established to guide future growth in the Planning Area and mitigate the impacts of future development. These guidelines and actions will be implemented by the City to address citywide concerns. Although part of the proposed project, these goals, policies, and programs will serve as mitigation measures for the environmental impacts of development under the General Plan. Implementation programs identified in the City's Safety Element that would help mitigate the impacts of development on surface water and reduce the risks of flooding include the following:

A8. Public Information and Education. The City will develop programs for public information and the education of resident and businesses on flood hazards, dam inundation, geologic hazards, and other issues for which prevention measures may decrease the potential for personal injury and property damage.

A9. City Emergency Preparedness Plan. The City has adopted an Emergency Preparedness Plan which identifies emergency responses and recovery operations for disasters affecting the City. The City will update these procedures at least every 5 years to accommodate growth and changing situations and to reinform

responsible agencies of their specific roles. Resource listings within the City Emergency Preparedness Plan will be updated annually. The City's emergency plan includes disaster recovery programs and reconstruction standards and measures as well as evacuation procedures and routes, emergency drills, monitoring and warning system, and resource listing.

A23. **CEQA**. The City will implement CEQA requirements for new development and for capital improvement projects. CEQA requires evaluation of potential impacts to public safety from seismic, flood, fire, risk of upset (spills, explosions, etc.), and other factors.

A26. **Public Records of Hazards**. The City will provide data on known hazards in the Planning Area for public review. This information will increase community awareness and personal preparedness for residents and businesses.

A27. **Regional Coordination**. The City will coordinate with Los Angeles County and the City of Lancaster in addressing public safety issues which affect the Antelope Valley, such as traffic, crime, air pollution, and water resource issues.

B2. **Floodplain Development Standards**. The City has adopted a Master Drainage Plan which establishes a consistent policy and program for handling stormwater runoff in developed areas. This plan will be coordinated with the city's capital improvement program. All development in the city must be consistent with the Master Drainage Plan. In addition, all development in flood hazard areas will be required to comply with state and federal regulations, including:

- Executive Order 11988, Flood Plain Management
- Flood Disaster Protection Act of 1973 as amended (PL 93-234)
- National Flood Insurance Program (44 CFR Part 59-75)
- Floodplain Management Guidelines (43 PR 6030)
- L.A. County Flood Control District regulations.

Where development in flood hazard areas cannot be avoided, the proposed project or activity must be designed or modified so as to minimize the potential adverse impacts affecting floodplains, restore and preserve the natural and beneficial values served by floodplains, and to use measures which mitigate or reduce the risk of flood loss. Mitigation must achieve protection of life, property, and the natural and beneficial values of the floodplain.

C. Land Use Planning. In areas where a significant hazard is present, the type of development permitted must reduce risks to an acceptable level. The land use suitability of proposed developments will be evaluate for flood hazard areas, aircraft crash zones, and the Alquist Priolo Special Studies Zone. New development must be protected from public safety risks and must not add to existing hazards. Development shall be limited in hazard areas. Along earthquake fault zones and floodplains, development shall be minimized to low intensity uses, such as recreation, agriculture, rural residential, and open spaces.

Implementation programs and policies of the Safety Element would mitigate the impacts of seismic hazards on future development.

A1. Existing Hazardous Buildings. The City will develop an inventory of existing hazardous buildings (structures highly susceptible to earthquakes, and other hazards). Existing structures may be required to be improved up to current safety code before any change of occupancy or use.

A3. Geologic Investigation. The City engineering geologist will evaluate the need for a geologic investigation for proposed development within areas of potential geologic hazards. Geologic investigations will be required to include assessment of soil stability, susceptibility to geologic hazards in the area (including distance to nearest fault), and any other conditions which, as determined by the Engineering Department, may affect structural foundations.

A4. Construction and Land Use Standards. The City will review all new development for compliance with construction and land use standards regarding earthquake, and other hazards. Strict enforcement of building codes and development standards shall be maintained with modifications granted only if no risks to life and property are involved.

A5. **Special Study Zones**. The City has established special study zones in known hazardous areas (earthquake fault zones, flood hazard areas, and areas of steep slopes) in order to identify the need for indepth studies before allowing development within these areas. The construction of high density uses and critical structures on hazardous sites will be limited as required by California state law and city ordinances.

A11. **Mutual Aid**. The City will continue its mutual aid agreements with other agencies, including various county agencies, the State Office of Emergency Services, and the Federal Emergency Management Agency for responses to disasters that involve the region, state, or nation. City services are also available for mutual aid to neighboring jurisdictions.

A12. **Emergency Funds**. The City will apply for programs and funds from state, federal, and regional agencies to help provide relocation assistance, emergency management, relief goods, post-disaster reconstruction programs, and emergency housing when needed.

A22. **Building and Seismic Safety Codes**. The City will enforce its building and seismic safety codes which provide minimum standards for the construction of habitable structures, and ensure the structural stability and safety of all developments. The Building and Safety Department reviews all construction plans for compliance with codes prior to development. The City's Code Enforcement section responds to citizens concerns regarding unsafe structures, and requires abatement of code violations.

A26. **Public Records of Hazards**. The City will provide data on known hazards in the Planning Area for public review to increase community awareness and personal preparedness for residents and businesses.

Additional mitigation measures are found in Section 4.2.1, Geologic Hazards, of this EIR.

The full implementation of the programs and policies noted above, including the implementation of mitigation measures identified for individual development projects during development and CEQA review, would reduce significant adverse geological impacts relating to slope stability, soil expansion, soil erosion, soil infiltration, soil settlement, subsidence, and hydrocompaction to a less than significant level. However, as previously determined in Section 4.2.1, due to the proximity of the San Andreas and other active and potentially active faults to the

Planning Area, earthquakes represent a significant risk to the residents of Palmdale. The implementation of the recommended mitigation measures and city programs will reduce the impact of seismic hazards, but not eliminate it. Even with implementation of the measures, risks to residents of Palmdale caused by the presence of earthquake hazards cannot be reduced to a less than significant level.

Aircraft Accident

Environmental Impacts

Seventy-five percent of aircraft accidents reported have happened on or near airport runways. These accidents may cause injury, death, fire, explosion, damage to property, special and nuclear cargo problems, strained hospital facilities, traffic disruption, disruption of utilities, and crowd control problems.

Thirteen accidents have occurred at the plant since 1954, when flight records began. Five of the accidents involved civilian aircraft, four of which were mid-air collisions; the other was a result of mechanical failure when the engine fell out of the plane and the aircraft fell to the ground. The remaining eight accidents occurred during take-off and landing of military aircraft; five occurred on-site and the three others happened within a 2-mile radius of the plant. The highest accident potential is in the clear zone, with the level of risk decreasing in Accident Potential Zone I and Accident Potential Zone II, respectively.

There are significant risks and impacts associated with the continued operation of the USAF Plant 42 and operation of the proposed regional airport will increase these risks. The proposed land use plan designates areas within the crash zones for industrial and airport-related development. The USAF crash zones do not impact residential areas. Industrial land uses in the accident potential zones will have high exposure to the risks of aircraft accidents.

Most of the aircraft clear zone falls within USAF property and the facility is responsible for the development of compatible land uses. Accident Potential Zones I and II on the northeastern side have been designated for airport and related uses or industrial uses. The southwestern accident potential zones are generally designated for industrial and Specific Plan industrial areas. Industrial and airport-related uses will result in some level of

risk of property damage and human injury depending on the intensity of use. However, a small portion of the southwestern Zone II is designated for multi-family residential development, at an average density of 12.8 units per acre. This land use is sensitive to aircraft hazards because of the high resident density.

The western accident potential zone extends west of Sierra Highway to areas designated for industrial specific plan, business park, and equestrian residential development. This presents risk to property and could be a risk to human life. However, these designations typically have relatively low densities and, therefore, risks are not considered significant.

The crash zones of the proposed regional airport fall within the USAF Plant 42 property on the west and industrial areas on the east. These are considered low risk uses because of the low employee ratio.

Commercial flights to Los Angeles and Palm Springs are currently available at the USAF Plant 42. The Department of Airports has an agreement with the USAF to use the Air Force landing strips for up to 50 operations per day with agreement to increase this to 200 flights per day. Additional industrial development is expected within and around USAF Plant 42. The possibility of aircraft accidents which could harm life and property within the plant's aircraft crash zones is a present and continuous threat.

The regional airport is projected to accommodate up to 5,388,705 passengers by the year 2010.[1] Aircraft crash hazards associated with the proposed regional airport include the potential for property damage to industrial land uses surrounding the site. Compatible development within crash zones will reduce potential damage by accidents. The risk of accident will increase substantially if the proposed airport is developed.

Impacts associated with aircraft accident potential are considered significant.

---

1 Palmdale Regional Airport Air Quality Study, Southern California Association of Governments and South Coast Air Quality Management District (1990).

Mitigation Measures

The General Plan contains goals, policies, and implementation programs that were established to guide development and mitigate its environmental impacts. They are guidelines and actions that will be implemented by the City to address citywide concerns. Although part of the proposed project, these goals, policies, and programs will serve as mitigation measures for the environmental impacts of development under the General Plan. The following policies and implementation programs from the Safety Element would reduce the impacts of aircraft accidents on future development.

- **Policy S2.2.1.** Require all development to comply with applicable FAA regulations which affect development in the Accidental Potential Zones.

- **Policy S2.2.2.** Through the design review process, ensure that new buildings are located in a manner which will promote clear linear corridors through the developed area within any Accident Potential Zone, to create pilot options in the event of an aircraft emergency.

- **Policy S2.2.3.** Review and evaluate currently existing areas within the low altitude overflight area which are occupied by incompatible uses, to determine the potential of the redevelopment process to convert those land uses to airport compatible uses.

The following implmementation measures will also reduce the impacts of aircraft accidents on future development:

B.5. JLUC Policies. New projects and land use requests should be reviewed for conformance with the intent of the Joint Land Use Committee (JLUC) policies. The JLUC policies related to land use within the accident potential zones are as follows:

-- Clear Zone. All of the clear zones are currently within the boundaries of Plant 42 and are not within the jurisdiction of either city (City of Palmdale or City of Lancaster) or the County.

- General Policies for the Accident Potential Zone (APZ).

  1. This Safety Element hereby incorporates by reference the FAA Part 77 regulations and Tab No. B-2 of the Master Plan Vicinity Map, Zoning Plan for Air Force Plant 42 for height regulations as they affect the air space around U.S. Air Force Plant 42.

  2. All development shall comply with applicable FAA regulations which affect development in these zones.

  3. Open space uses which are low intensity and passive, such as Joshua tree and nature preserves shall be encouraged within accident potential zones.

  4. Avigation easements shall be obtained wherever possible in this zone.

  5. Disclosure statements which declare that the property is located within the accident potential zone and is exposed to aircraft noise shall be required on the sale or transfer of property in this zone.

- Accident Potential Zone 1

  1. New residential uses shall not be approved in this zone.

  2. Commercial uses shall be prohibited.

  3. Industrial uses should be encouraged with the restriction that average employee density shall not exceed 25 persons per acre per hour and lot coverage by buildings shall not exceed 30 percent of the site.

- Accident Potential Zone 2

1. Residential uses should be discouraged but, if allowed, shall not exceed 1 dwelling unit per 2.5 gross acres.

2. Commercial uses which do not draw large numbers of customers to the site shall be encouraged. Customer intensive retail operations are excluded. Average employee density should not exceed 25 persons per acre per hour.

3. Industrial uses should be encouraged with the restriction that average employee density shall not exceed 25 persons per acre per hour and lot coverage by buildings shall not exceed 40 percent of the site.

With implementation of these mitigation measures, the impact of aircraft hazards would be reduced to a less than significant level.

Hazardous Materials and Wastes

Environmental Impacts

The proposed land use plan designates 16,526 acres of industrial uses, 20,557 acres of airfield and related uses, and 282 acres of commercial manufacturing uses. Proposed industrial areas surround the USAF Plant 42 and the proposed regional airport. The area around the Southern Pacific Railroad between Avenue M and S, and in the area around the intersection of Sierra Highway and Avenue S are also designated for industrial uses. Commercial manufacturing and business park uses are designated at the intersection of Sierra Highway and Pearblossom Highway.

The development of presently undeveloped industrial areas may increase the volume of hazardous materials use and disposal in and out of the Planning Area, thereby increasing the potential for a spill or incident involving hazardous materials. The increased population density anticipated at buildout would increase the number of persons exposed to risks of the hazardous materials contamination in the area.

Uses which could have impacts relating to hazardous materials contamination include the Antelope Valley Landfill, USAF Plant 42, the proposed regional airport, Superfund sites, underground tanks, and the transport of hazardous materials and waste through the Planning Area. Residential areas adjacent to these uses could be impacted in the event of a release or spill.

The preparation of a Hazardous Waste Management Plan by the City, and implementation of AB 2185/87 and other local and state regulatory programs, will reduce the likelihood of soil, surface and groundwater contamination from operations of existing and potential hazardous materials and waste sites, and from transportation of hazardous materials and wastes in the Planning Area.

Impacts associated with the use, disposal, and transport hazardous materials and wastes are considered significant unless programs in the proposed General Plan and mitigation measures discussed below are implemented.

Mitigation Measures

The General Plan contains goals, policies, and implementation programs that were established to mitigate the impacts of future development. They are guidelines and actions that will be implemented by the City to address citywide concerns. Although part of the proposed project, these goals, policies, and programs will serve as mitigation measures for the environmental impacts of development under the General Plan. Policies contained in the Safety Element would minimize the risks associated with hazardous materials and wastes. These programs and policies include:

- **Policy S2.3.1.** Coordinate with Los Angeles Fire Department to develop a listing of all hazardous waste generators that could affect City residents.
- **Policy S2.3.2.** Continue to support and encourage state, city, and county efforts to identify existing or previously existing hazardous waste generators or contaminated sites.
- **Policy S.2.3.3.** Require that soils containing toxic or hazardous substances be cleaned up to the satisfaction of the agency having jurisdiction, prior to the granting of any permits for new development.

- **Policy S.2.3.4**. Restrict or prohibit land uses and activities that generate excessive amounts of hazardous materials or wastes that cannot be properly maintained or disposed.

- **Policy S2.3.5**. Promote the routing of vehicles carrying potentially hazardous materials along transportation corridors that reduce the risk to the public and sensitive environmental areas. Cooperate with regional agencies in developing such routing systems.

- **Policy S2.3.6**. Require that all proposed hazardous waste facilities comply with AB 2948 (Tanner Legislation) and Chapter 9, Article 96 of the Palmdale Zoning Ordinance.

- **Policy S2.3.7**. Prepare and adopt a citywide Hazardous Waste Management Plan consistent with the Los Angeles County Hazardous Waste Management Plan, in order to ensure that local hazardous waste facility siting is compatible with local land use policy.

The following implementation measures, contained in the Safety Element, will also reduce impacts associated with hazardous materials and wastes:

A.16. Hazardous Waste Disposal. The City may conduct collection of hazardous waste from residential areas for proper disposal in nearby facilities on at least an annual basis, and more frequently if deemed necessary.

A.17. Hazardous Waste Management Plan. The City will prepare a Hazardous Waste Management Plan that will assure that hazardous waste facility sites and adjacent land uses are compatible with existing development and that hazardous materials and wastes are stored, used, transported, treated, and disposed of properly. This plan will be adopted and implemented in accordance with state law.

The implementation of these mitigation measures, and compliance with state and federal regulations regarding the use, disposal, and transport of hazardous materials, would reduce impacts to a less than significant level.

4.2.13 NOISE

Environmental Impacts

Increases in ambient noise levels are anticipated as a result of buildout under the proposed General Plan. Noise sources in the proposed land use plan, include:

- Industrial and airport and related land uses in and around USAF Plant 42 and the proposed regional airport;
- Industrial and commercial manufacturing uses along Sierra Highway;
- Flight operations at USAF Plant 42 and the proposed regional airport;
- Quarry operations at Little Rock Wash;
- Transportation along Sierra Highway, Palmdale Boulevard, Pearblossom Highway, the Antelope Valley Freeway, and major roadways;
- Freight movement along the Southern Pacific Railroad Line; and,
- Construction.

Some commercial and industrial operations and activities are considered to contribute to existing or potential significant citywide noise problems. Transportation noise sources that dominate the noise environment included in the U.S. Plant 42, Antelope Valley Freeway, Sierra Highway, Pearblossom Highway, major roadways, and the Southern Pacific Railroad. Intermittent noise related to construction activities would continue with future development. The Palmdale Regional Airport will be a source of significant future noise impacts.

A summary of noise impacts by existing sources is provided below:

- **U.S. Air Force Plant 42**. CNEL noise contours extend substantial distances into the community. The 70 dB CNEL extends beyond SR-14 on the west.
- **Antelope Valley Freeway**. CNEL noise levels are significant and the 65 dB extends a substantial distance off the right-of-way.

- **Sierra Highway/Southern Pacific Railroad Line**. These transportation noise sources have overlapping noise contours resulting in substantial noise impacts. Major rail freight movements result in single events of long duration.

- **Pearblossom Highway**. The 60 and 65 dB CNEL contours extend substantial distances into the community.

- **Major Roadways**. Noise-sensitive land uses along major roadways are impacted by traffic noise.

- **Commercial/Industrial**. In general, commercial/industrial operations and activities are not considered a citywide noise problem. Isolated noise problems occur where commercial/industrial uses are located near a noise-sensitive land use. Sand and gravel operations are generally far removed from noise sensitive land uses. However, sensitive residential uses are being developed closer to those operations and traffic along Avenue T will impact more residential uses as development spreads outward from the existing developed areas.

- **Construction**. Construction noise can be annoying to adjacent noise-sensitive land uses.

Transportation noise levels are expected to increase in the future. Noise impacts would be continual and incremental and would occur as Palmdale continues to grow to anticipated builtout. Traffic would increase substantially over the years due to population growth. In addition, the City of Los Angeles and the U.S. Air Force have reached a joint-use agreement allowing up to 400 commercial operations (take-offs or landings) per day on the northeast/southwest runway of the plant.

Table 4-23 presents projected noise levels for various roadway segments at buildout of the proposed land use plan. Future noise levels reflect projected increases in traffic volumes under the typical buildout conditions of the proposed land use plan. The roadway noise levels represent unmitigated conditions. Therefore, on roadways where walls, berms, or structures block the noise path, the noise model overestimate the noise impacts.

TABLE 4-23

FUTURE ROADWAY NOISE LEVELS (CNEL)

Roadway	From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
East/West Arterials					
Ave L	10th St E/20th St E	158	327	698	73.7
	20th St E/40th St E	152	315	673	73.4
	40th St E/50th St E	140	287	611	72.8
	50th St E/90th St E	105	207	436	70.6
	90th St E/110th St E	113	226	478	71.2
Ave L-8	10th St E/20th St E	< 50	104	220	67.4
	20th St E/50th St E	< 50	83	172	65.8
Ave M	90th St W/75th St W	< 50	59	119	63.3
	75th St W/60th St W	< 50	111	230	67.0
	60th St W/30th St W	106	218	465	71.6
	30th St W/15th St W	151	311	664	73.4
	15th St W/SR-14	161	335	715	73.8
	SR-14/Sierra Hwy	168	350	748	74.1
	Sierra Hwy/Division St	203	428	918	75.5
	Division St/10th St E	156	323	690	73.6
	10th St E/15th St E	158	327	698	73.7
	15th St E/50th St E	147	303	647	73.2
	50th St E/90th St E	74	145	304	68.8
	90th St E/120th St E	< 50	96	201	66.8
Ave M-8	70th St W/55th St W	< 50	96	201	66.8
	55th St W/45th St W	< 50	66	134	64.1
	45th St W/30th St W	< 50	63	128	63.8
Ave N	70th St W/60th St W	61	124	263	68.6
	60th St W/25th St W	110	226	481	71.8
	25th St W/SR-14	110	226	481	71.8
	SR-14/10th St W	106	218	465	71.6
	10th St W/Sierra Hwy	74	145	304	68.8
	2000' W of 40th St E/				

TABLE 4-23 (continued)

Roadway	From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
	90th St E	80	158	334	69.4
	90th St E/120th St E	< 50	111	230	67.0
Ave N-8	Rancho Vista/30th St W	76	149	314	69.0
	10th St W/Sierra Hwy	< 50	63	128	63.8
Ave O	Rancho Vista/30th St W	76	149	314	69.0
	30th St W/10th St W	101	207	441	71.3
	10th St W/Sierra Hwy	84	167	353	69.8
	90th St E/120th St E	69	131	274	68.1
Ave O-8	Rancho Vista/10th St W	< 50	96	201	66.8
Rancho Vista Blvd					
	50th St W/Towncenter Dr	96	195	415	70.9
	Towncenter Dr/30th St W	110	226	481	71.8
Ave P	30th St W/15th St W	108	222	473	71.7
	15th St W/10th St W	116	240	513	72.2
	10th St W/Sierra Hwy	125	261	558	72.8
	Sierra Hwy/8th St E	103	211	449	71.4
	8th St E/20th St E	108	222	473	71.7
	20th St E/30th St E	105	215	457	71.5
	30th St E/50th St E	91	183	389	70.4
	90th St E/110th St E	98	199	424	71.0
Ave P-8	30th St W/25th St W	< 50	87	182	66.2
	25th St W/15th St W	60	120	255	68.4
	15th St W/SR-14	60	120	255	68.4
	SR-14/3RD St E	< 50	108	229	67.7
	3rd St E/Sierra Hwy	< 50	108	229	67.7
	Sierra Hwy/10th St E	< 50	92	192	66.5
	10th St E/40th St E	56	112	238	67.9
	40th St E/50th St E	< 50	< 50	104	62.4
	50th St E/90th St E	< 50	78	162	65.4

TABLE 4-23 (continued)

Roadway	From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
Ave Q	Palmdale Blvd/Division St	108	222	473	71.7
	Division St/6th St E	103	211	449	71.4
	6th St E/Sierra Hwy	106	218	465	71.6
	Sierra Hwy/20th St E	106	218	465	71.6
	20th St E/40th St E	110	226	481	71.8
	40th St E/60th St E	113	233	497	72.0
Santa Fe Hills Dr					
	Elizabeth Lake/25th St W	< 50	100	211	67.1
Elizabeth Lake Rd					
	Godde Hill Rd/Bridge Rd	56	112	238	67.9
	Bridge Rd/25th St W	130	271	580	73.1
	25th St W/Foxholm Dr	149	307	655	73.3
	Foxholm Dr/Palmdale Blvd	158	327	698	73.7
Palmdale Blvd					
	Elizabeth Lake Rd/SR-14	147	303	647	73.2
	SR-14/Division St	165	342	732	74.0
	Division St/30th St E	122	254	543	72.6
	30th St E/47th St E	103	211	449	71.4
	47th St E/70th St E	93	187	398	70.6
	70th St E/90th St E	74	145	304	68.8
	90th St E/120th St E	86	171	362	70.0
City Ranch Rd					
	Ritter Ranch Rd/Ranch Center Dr	< 50	< 50	84	62.1
	Ranch Center Dr/Bridge Rd	68	139	295	69.4
	Bridge Rd/Tierra Subida	< 50	83	172	65.8
Ave R	Tierra Subida/Division St	110	226	481	71.8
	Division St/6th St E	108	222	473	71.7
	6th St E/25th St E	106	218	465	71.6
	25th St E/30th St E	98	199	424	71.0
	30th St E/47th St E	106	218	465	71.6

TABLE 4-23 (continued)

Roadway	From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
	47th St E/60th St E	100	203	432	71.1
	60th St E/70th St E	< 50	84	168	64.8
	70th St E/90th St E	71	136	284	68.4
Ave R-8	Division St/6th St E	69	142	303	69.5
	6th St E/10th St E	69	142	303	69.5
	10th St E/25th St E	71	146	311	69.7
	25th St E/1200' W of 30th St E	65	132	279	69.9
	1200' W of 30th St E/ 1200' E of 35th St E	74	153	326	70.0
	1200' E of 35th St E/ 40th St E	69	142	303	69.5
Ave R-8	40th St E/1800' E of 47th St E	65	132	279	69.0
	1800' E of 47th St E/ 70th St E	82	169	362	70.7
	70th St E/90th St E	58	116	246	68.2
Ritter Ranch Rd					
	Elizabeth Lake Rd/City Ranch Rd	< 50	96	201	66.8
	City Ranch/Ranch Center Dr	< 50	96	201	66.8
	Ranch Center Dr/Bridge Rd	84	167	353	69.8
Ave S	Bridge/Tierra Subida Ave	114	237	505	72.2
	Tierra Subida Ave/SR-14	93	187	398	70.6
	SR-14/Sierra Hwy	115	230	488	71.3
	Sierra Hwy/10th St E	147	303	647	73.2
	10th St E/20th St E	132	270	575	72.4
	20th St E/25th St E	113	226	478	71.2
	25th St E/35th St E	142	291	620	72.9
	35th St E/47th St E	123	249	527	71.8
	47th St E/3800' E of 47th St E	97	187	393	69.9

TABLE 4-23 (continued)

Roadway	From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
	3800' E of 47th St E/ 60th St E	78	154	324	69.2
	60th St E/70th St E	67	126	263	67.9
	70th St E/90th St E	71	136	284	68.4
	90th St E/110th St E	93	187	398	70.6
Ave S-8	45th St E/Ft Tejon Rd	< 50	62	125	63.6
Pearblossom Hwy					
	Sierra Hwy/Barrel Springs	152	315	673	73.4
	Barrel Springs Rd/40th St E	156	323	690	73.6
	40th St E/47th St E	145	299	638	73.1
	47th St E/Ave T	117	235	498	71.5
Ave T	Pearblossom Hwy/90th St E	100	203	432	71.1
	90th St E/120th St E	67	126	263	67.9
Barrel Springs Rd					
	Tierra Subida/Sierra Hwy	< 50	106	218	66.6
	Sierra Hwy/W of 25th St E	73	140	294	68.6
	W of 25th St E/25th St E	73	140	294	68.6
	25th St E/Pearblossom Hwy	98	199	424	71.0
	Pearblossom Hwy/40th St E	74	145	304	68.8
	40th St E/Chesboro Rd	< 50	< 50	110	61.8
Old Harold Rd					
	25th st E/Barrel Springs Rd	< 50	87	182	66.2
State Route 138 (SR-138)					
	Ave T/90th St E	109	225	480	71.8
	90th St E/120th St E	< 50	< 50	98	61.0
North/South Arterials					
70th St West					
	Ave M/Ave M-8	< 50	108	229	67.7

TABLE 4-23 (continued)

Roadway	From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
	Ave M-8/Ave N	60	120	255	68.4
65th St West					
	Ave M/Ave N	< 50	< 50	< 50	55.4
60th St West					
	Ave M/Ave N	< 50	104	220	67.4
Godde Hill Rd					
	60th St W/Elizabeth Lake	65	132	279	69.0
55th St West					
	Ave M-8/Ave N	< 50	< 50	76	60.2
50th St West					
	Ave L/Ave M	< 50	104	220	67.4
	Ave M/Ave N	63	128	271	68.8
45th St West					
	Ave N/Ave O	< 50	96	201	66.8
Ranch Center Dr					
	Elizabeth Lake Rd/Ritter Ranch Rd	< 50	58	116	63.2
30th St West					
	Ave M/Ave N	86	171	362	70.0
	Ave N/Ave P	71	136	284	68.4
	Ave P/Ave P-8	< 50	101	206	66.2
25th St West					
	Ave O/Ave P	< 50	63	128	63.8
	Ave P/Ave P-8	< 50	100	211	67.1
	Ave P-8/Elizabeth Lake Rd	86	171	362	70.0
20th St West					

TABLE 4-23 (continued)

Roadway	From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
	Ave M/Ave N	56	112	238	67.9
	Ave N/Ave P	< 50	108	228	67.7
	Ave P/Elizabeth Lake Rd	60	120	255	68.4
15th St West					
	Ave M/Ave N	61	124	263	68.6
	Ave N/Ave P	< 50	87	182	66.2
	Ave O-8/Ave P-8	< 50	73	151	64.9
10th St West					
	Ave M/Ave N	145	299	638	73.1
	Ave N/Ave P	158	327	698	73.7
	Ave P/Palmdale Blvd	140	287	611	72.8
Tierra Subida Ave					
	Palmdale Blvd/Ave R	82	163	343	69.6
	Ave R/Ave S	108	222	473	71.7
	Ave S/Barrel Springs Rd	< 50	83	172	65.8
5th St West					
	Ave P-8/Palmdale Blvd	131	275	587	73.1
	Palmdale/Tierra Subida Ave	63	128	271	68.8
Division St					
	Ave M/Ave O	113	233	497	72.0
	Ave O/Ave P	91	183	389	70.4
	Ave P/1500' N of Ave Q	103	210	449	71.4
	1500' N of Ave Q/Ave R	101	207	441	71.3
	Ave R/Ave R-8	65	121	252	67.6
5th St East					
	Ave Q/Palmdale Blvd	< 50	< 50	104	62.4
	Palmdale Blvd/Ave R-8	< 50	63	128	63.8
	Ave R-8/Ave S	< 50	58	116	63.2
6th St East					

TABLE 4-23 (continued)

Roadway	From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
	Sierra Hwy/Palmdale Blvd	< 50	58	116	63.2
	Palmdale Blvd/Ave R	< 50	58	116	63.2
Sierra Hwy					
	Ave M/Ave P	152	315	673	73.4
	Ave P/Ave Q	119	247	528	72.4
	Ave Q/Palmdale Blvd	84	167	353	69.8
	Palmdale Blvd/Ave R-8	84	167	353	69.8
	Ave R-8/Ave S	82	163	343	69.6
	Ave S/1200' S of Ave S	82	163	343	69.6
	1200' S of Ave S/3000' N of Barrel Springs Rd	82	163	343	69.6
	3000' N of Barrel Springs Rd/ Pearblossom Hwy	82	163	343	69.6
	Pearblossom Hwy/SR-14	173	361	772	74.3
10th St East					
	Ave L/Ave M	94	191	407	70.7
	Ave O-8/Ave P	100	203	432	71.1
	Ave P/Palmdale Blvd	110	226	481	71.8
	Palmdale Blvd/Ave R-8	60	120	255	68.4
	Ave R-8/Ave S	61	124	263	68.6
15th St East					
	Ave L/Ave L-8	< 50	78	162	65.4
	Ave L-8/Ave M	< 50	77	160	65.3
	Ave P/Palmdale Blvd	< 50	96	201	66.8
	Palmdale Blvd/Ave R	< 50	73	151	64.9

TABLE 4-23 (continued)

Roadway	From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
20th St East					
	Ave L/Ave M	73	140	294	68.6
	Ave P/Palmdale Blvd	< 50	96	201	66.8
	Palmdale Blvd/Ave S	63	128	271	68.8
25th St East					
	Ave L/Ave M	< 50	< 50	90	61.4
	Ave P/Palmdale Blvd	94	191	407	70.7
	Palmdale Blvd/Ave R-8	91	183	389	70.4
	Ave R-8/Ave S	93	187	398	70.6
	Ave S/4200' S of Ave S	131	275	587	73.1
	4200' S of Ave S/Barrel Springs Rd	93	187	398	70.6
30th St East					
	Ave L/Ave M	67	126	263	67.9
	Ave P/Ave Q	80	158	334	69.4
	Ave Q/Palmdale Blvd	93	187	398	70.6
	Palmdale Blvd/1300' S of Palmdale Blvd	84	167	353	70.0
	1300' S of Palmdale Blvd/ Ave R	84	167	353	70.0
	Ave R/1000' S of Ave R	89	179	380	70.3
	1000' S of Ave R/600' N of Ave R-8	89	179	380	70.3
	600' N of Ave R-8/Ave R-8	89	179	380	70.3
	Ave R-8/Ave S	< 50	84	168	64.8
	Ave S/1600' S of Ave S	--	--	--	----
35th St East					
	Ave L/Ave M	< 50	< 50	104	62.4
	Ave P/Ave Q	< 50	58	116	63.2
	Ave Q/Palmdale Blvd	65	132	279	69.0
	Palmdale/1200' N of Ave R	65	132	279	69.0
	1200' N Ave R/Ave R	66	132	279	69.0
	Ave R/Ave S	< 50	73	151	64.9

TABLE 4-23 (continued)

Roadway	From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
	Ave S/1600' S of Ave S	< 50	78	162	65.4
40th St East					
	Ave L/Ave M	< 50	100	211	67.1
	Ave N/Ave P	< 50	109	229	67.7
	Ave P/Palmdale Blvd	96	195	415	70.9
	Palmdale Blvd/Ave S	91	183	389	70.4
	Ave S/Pearblossom Hwy	103	211	449	71.4
	Pearblossom Hwy/Barrel Springs Rd	< 50	108	229	67.7
45th St East					
	Ave L/Ave M	< 50	< 50	90	61.4
47th St East					
	Palmdale Blvd/Ave S	149	307	655	73.3
	Ave S/Fort Tejon Rd	121	244	518	71.7
	Fort Tejon Rd/Pearblossom	78	154	324	69.2
	Pearblossom Hwy/Barrel Springs Rd	< 50	< 50	60	58.4
Fort Tejon Rd					
	47th St E/Pearblossom Hwy	75	133	271	67.4
50th St East					
	Ave L/Ave M	163	338	723	73.9
	Ave M/Ave P	180	376	804	74.6
	Ave P/Crosstown Fwy	156	323	690	73.6
	Crosstown Fwy/Palmdale	168	350	748	74.1

TABLE 4-23 (continued)

Roadway	From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
55th St East					
	Ave O/Ave S	< 50	87	182	66.2
60th St East					
	Ave L/Ave N	< 50	111	230	67.0
	Ave O/Ave R	114	237	505	72.2
	Ave R/Ave S	80	158	334	69.4
60th St East					
	Ave S/Ave T	67	126	263	67.9
	Ave T/Mt Emma Rd	< 50	< 50	90	61.4
70th St East					
	Ave L/Ave N	< 50	83	172	65.8
	Ave P-8/Ave R	< 50	100	211	67.1
	Ave R/Ave S-8	60	120	255	68.4
80th St East					
	Ave L/Ave N	< 50	87	182	66.2
90th St East					
	Ave L/Ave N	94	191	407	70.7
	Ave N/Palmdale Blvd	113	233	497	72.0
	Palmdale Blvd/Ave S	94	191	407	70.7
	Ave S/Ave T	< 50	104	220	67.4
	Ave T/SR-138	< 50	< 50	104	62.4
	SR-138/Fort Tejon Rd	< 50	< 50	< 50	55.4
110th St East					
	Ave L/Ave N	< 50	63	128	63.8
	Ave N/Ave P	< 50	96	201	66.8
	Ave P/Ave S	< 50	92	192	66.5
	Ave S/SR-138	< 50	< 50	76	60.2
	SR-138/Fort Tejon Rd	< 50	< 50	60	58.4

TABLE 4-23 (continued)

Roadway	From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
State Route 14 (SR-14)					
	Ave L/Ave N	355	756	1,625	78.7
	Ave N/Ave P	379	809	1,738	79.1
	Ave P/Palmdale Blvd	391	834	1,793	79.3
	Palmdale Blvd/Ave S	272	578	1,241	77.4
	Ave S/L. A. Forest Hwy	260	551	1,184	77.1
	L. A. Forest/Crown Valley	319	682	1,466	78.5
Bypass Fwy					
	Ave L/Ave M	222	472	1,015	76.7
	Ave M/Ave O	235	501	1,077	77.1
	Ave O/Palmdale Blvd	157	331	710	74.4
Crosstown Fwy					
	SR-14/10th St E	233	496	1,066	77.0
	10th St E/25th St E	235	501	1,077	77.1
	25th St E/40th St E	228	487	1,046	76.9
	40th St E/50th St E	241	515	1,107	77.3
	50th St E/Bypass Fwy	157	331	710	74.4
Airport Fwy					
	Crosstown Fwy/70th St E	280	381	818	75.3
	70th St E/Bypass Fwy	160	337	723	74.5

Source: Michael Brandman Associates, 1992.

Comparison of the existing noise levels (Table 3-38) and future noise levels (Table 4-23) shows substantial increases in roadway noise levels due to increased traffic. These noise level increases would occur slowly over the years as Palmdale changes to a more urbanized area. As the area develops, barriers to roadway noise will increase as well, including buildings, walls, and landscaping between the land use and noise source. Noise

increases in commercial and industrial areas would be considered significant due to increased air traffic. Noise level impacts on residential and other noise sensitive land uses located adjacent to major arterials would also be considered significant.

Mitigation Measures

The General Plan contains goals, policies, and implementation programs that were established to mitigate the impacts of future development. They are guidelines and actions that will be implemented by the City to address citywide concerns. Although part of the proposed project, these goals, policies, and programs will serve as mitigation measures for the environmental impacts of development under the General Plan. The following implementation programs in the Noise Element would mitigate future noise impacts in Palmdale.

A. Land Use Compatibility. Proposed residential and other noise-sensitive projects impacted by a 65 dB CNEL or greater would require additional acoustical analysis to achieve acceptable exterior noise levels. Acceptable interior noise levels of 45 dB CNEL or less must also be achieved.

B. Acoustical Analysis Reports. The City will require acoustical analysis reports for those projects located within existing or future 60 dB CNEL impact areas or as deemed necessary by the City. All acoustical analysis reports shall consider existing and future ambient and project-related noise levels and shall be prepared by a qualified acoustical engineer with experience in environmental noise assessment and noise control design.

C. Noise Ordinance. The City will adopt a noise ordinance which is compatible with state and federal standards. The ordinance will establish noise impact thresholds for noise abatement and attenuation, in order to reduce potential health hazards associated with high noise levels.

E. Joint Land Use Committee Policy Review. The City will review all new development applications for conformance with the Joint Land Use Committee (JLUC) policies relating to noise, as adopted by the Palmdale City Council on March 6, 1991. The JLUC policies were developed through the joint efforts of the City of Palmdale, the City of Lancaster, and the U.S. Air Force to address basic air installation land use compatibility issues.

Policies to govern land use within the 65 CNEL contour area are as follows:

1. The General Plan Noise Element Map shall identify the location of the 65 CNEL contour for U.S. Air Force Plant 42.

2. Land which currently has an industrial or commercial general plan designation shall not be changed to a residential or other incompatible use.

3. Applications (zone change, GPA, etc.) for land use changes which increase residential density shall not be approved.

4. Existing residential land use designations shall be examined for potential redesignation to airport compatible designations. It should also be noted that this policy does not require that we redesignate any area, only that we look at the potential.

5. Any development or undeveloped property which is seeking a land use action from the City shall be conditioned to provide an avigation easement to the Los Angeles Department of Airports, the U.S. Air Force, and the City.

6. Research and develop a means of obtaining avigation easements from all properties.

7. A Joint Air Force Plant 42/City of Los Angeles Department of Airports/City of Palmdale/City of Lancaster Part 150 Study shall be conducted to determine the need for soundproofing of existing residential development, to make Plant 42 and the surrounding communities mutually more compatible through use of FAA funding.

8. Currently existing residential areas shall be examined to determine the potential of the redevelopment process to convert those land uses to airport compatible uses.

9. Noise sensitive receptors shall be excluded (examples of noise sensitive receptors are hospitals and schools).

10. The development and zoning of residentially designated property shall be at the maximum density of the General Plan designation.

Policies to govern the land use for areas which are outside of the 65 CNEL contour but are frequently overflown by aircraft at low altitudes for take-off, landing, and closed pattern flight activity are as follows:

1. Higher density residential uses shall be discouraged and that--in order of priority--industrial, commercial, and low density residential land use designations (i.e., 1 du/ac or larger lots) shall be encouraged.

2. Noise sensitive receptors shall be excluded (i.e., hospitals and schools).

3. Currently existing areas which are occupied by incompatible uses shall be examined to determine the potential of the redevelopment process to convert those land uses to airport compatible uses.

4. The General Plan shall designate this low altitude overflight area on the General Plan Land Use Map.

5. Land which currently has an industrial or commercial general plan designation shall not be changed to a residential or other airport incompatible use.

6. Any developed or undeveloped property which is seeking a land use action from the City shall be conditioned to provide an avigation easement to the Los Angeles City Department of Airports, the U.S. Air Force, and the City.

7. Research and develop a means of obtaining avigation easements from all properties within this area.

F. Airport Land Use Commission. The City shall support the Airport Land Use Commission of Los Angeles County in planning for appropriate land uses around USAF Plant 42 through consistency of the City's General Plan with the County's Comprehensive Airport Land Use Plan.

G. Noise Sensitive Land Uses. The City shall coordinate with appropriate agencies and developers to reduce unnecessary noise in the vicinity of noise-sensitive locations through the following actions:

- Maintain liaison with transportation agencies, such as Caltrans, regarding the reduction of noise from existing facilities and roadways. The design and location of facilities and roadways shall also be considered.

- Maintain liaison with Los Angeles County Health Department to update information on the effects and impacts of noise pollution on humans.

- Consider noise as a priority factor in evaluating residential or other noise-sensitive projects. Building orientation and configuration should be used to minimize or eliminate noise problems for sites adjacent to the freeway, arterials, or rail lines. Additional effective noise reduction tools include the use of earthen berms, sound-reducing walls, and generous setbacks.

- Maintain a liaison with the Southern Pacific rail line to reduce the level of noise produced by train movement within the City, through the regular maintenance of the tracks and trains. Monitor the existing operations on the rail line, as well as any plans for future development so as to predict future noise levels.

- Enforce regulations, such as the State Vehicle Code noise standards, for city-owned and city-operated vehicles.

H. Noise Sources and Receptors. The City will maintain a map of receptors and sources in the Planning Area for new development in order to anticipate and/or avoid incompatible land uses. Acoustical analysis reports will be required to incorporate the receptor and source map in the report on a smaller scale.

I. Acoustical Design. The City will require developments to implement noise control measures during construction. Acoustical design shall include measures to control noise at the source, along the transmission path or at the receptor.

Implementation of mitigation measures would reduce noise impacts to a level less than significant for most areas in the City. However, existing and proposed sensitive land uses located near the airport, railroad, or major roadways may be exposed to significant noise impacts.

4.2.14 LIGHT

Environmental Impacts

Expansion of the City's Planning Area is not expected to cause light and glare impacts. The proposed land use plan, however, will allow more intensive development than existing, increasing the potential for light and glare impacts throughout the Planning Area.

The proposed land use plan allows for expanded industrial and airport-related areas in the northern portion of the City. Commercial uses will be concentrated in the central city and along the major arterials. Both of these land uses, together with the expected development of approximately 139,205 dwelling units at buildout, will substantially increase light and glare impacts in Palmdale.

Artificial night lighting of new commercial, industrial, and residential structures is anticipated, both in the central city and in outlying areas. Some of this lighting is expected to adversely affect neighboring land uses. Additional night lighting will also increase the overall level of light in the City, making astronomical observations more difficult.

The potential use of reflective materials in new commercial and industrial construction will increase daytime glare impacts in these areas of the City. Glare can adversely affect drivers passing by as well as tenants in neighboring buildings.

The proposed circulation plan will involve improvements to and maintenance of roads throughout the City. The illumination of roads which are not currently lighted is anticipated to cause some unwanted light impacts to neighboring residential land uses.

The proposed Community Design Element will affect the design and placement of lighting fixtures in the City.

The Housing Element and rehabilitation program is not expected to have any impact on light and glare in the City.

Impacts associated with light and glare are considered significant unless programs in the General Plan and mitigation measures discussed below are implemented.

Mitigation Measures

The Community Design Element currently under preparation will contain measures to reduce light impacts caused by new construction. As appropriate, the City of Palmdale will require the implementation of measures to mitigate the light and glare impacts of individual developments under the proposed Land Use Plan. Specific mitigation measures to reduce glare and artificial light impacts will be determined on a project by project basis.

Potential mitigation measures to be used for appropriate projects and new developments include the following techniques:

1. Increased setbacks for new developments requiring a significant amount of lighting.

2. The use of nonglare glass, nonreflective colors, surfaces, and textures, and other building materials that minimize light reflection on the sides of the buildings facing roadways and other areas on which glare would cause an adverse impact.

3. Architectural design treatments, such as designing the angle of the building with respect to the angle of the sun that affords pedestrians and adjacent land uses the greatest access to sunlight during business hours.

4. A point-by-point lighting plan shall be submitted for all commercial and industrial development projects and reviewed and approved by the Director of Planning.

5. Lighting systems should be designed and installed at angles that prevent intruding illumination in the direction of existing light sensitive land uses.

6. Lighting in commercial and industrial zones which are adjacent to residential neighborhoods shall be directed onto the site and no floodlighting shall be located as to be seen directly by any residential uses.

7. Outdoor lighting shall conform to all city codes and requirements of the Los Angeles County Sheriff's Department.

8. Landscaping and/or appropriate shading devices (canopies, shields, and wall hangings) should be incorporated into project designs to visually obscure the effects of lighting and glare on surrounding land uses.

9. Use of plant materials to decrease reflectivity of landscape surfaces.

10. Lighting plans for projects in the approach, departure, or flight patterns of Air Force Plant 42 will be reviewed by the Planning Department and the Air Force for potential impacts on aircraft and shall be required to comply with Air Force and FAA requirements.

Mitigation measures listed above will reduce potential impacts to a less than significant level.

4.2.15 AESTHETICS

Environmental Impacts

The expansion of the City's Planning Area is not expected to adversely affect the aesthetics of the community. However, the proposed land use plan anticipates continued urbanization in Palmdale, which will impact aesthetics. Development of the proposed land use plan will expand the area subject to urban development. New development has the potential to alter existing viewsheds and the views from designated scenic highways. Community design will also be affected by future development in the City, although the impacts will depend upon the specific land use policies established to guide new development.

A substantial amount of development is expected in the Palmdale Planning Area at buildout. An increase to approximately 494 million square feet of industrial development, and 51.8 million square feet of commercial uses are anticipated in addition to a capacity of 139,205 dwelling units. These new facilities will change the City's existing landscape. Urban land uses will expand to new areas of the City, replacing the vacant desert lands. Urbanization will likely bring more development to existing rural or small-town settings unless there are specific land use policies to prevent this. There may be multi-story development in the central city which will alter the

existing skyline. New buildings have the potential to block views of the San Andreas rift area, the mountains, the desert, and other parts of the City. Residential development is planned for many areas of the City. Subdivisions can look out of place in the foothills and desert if they are not tied to the natural landscape through design and landscaping.

The proposed Community Design Element will also impact aesthetics. New projects will be subject to the proposed, contained in the Community Design Element of the General Plan. The goals, policies and programs contained in the Community Design Elment will give the City the opportunity to positively influence new development and minimize adverse impacts on local aesthetics. The provisions of this element will likely require: the maintenance of significant viewsheds; the addition of landscaping to industrial, commercial, and other development; the establishment of standards to limit building height and bulk; and, variation in building detail and buffers adjacent to development along scenic highways.

The Circulation Element will involve road improvements throughout the City. Special attention should be given to landscaping and the preservation of views during this process.

The Housing Element provides for the rehabilitation of some housing. Housing development in Palmdale will be subject to the landscaping and signage requirements contained in the proposed Community Design Element.

Cumulative impacts on the Planning Area's aesthetic and visual qualities (impacts on views, loss of open space, change to built environment) are considered significant.

Mitigation Measures

On a project-by-project basis, the City of Palmdale will be able to reduce potential impacts by imposing development constraints. As appropriate, the City of Palmdale will require the implementation of measures to mitigate the aesthetic impacts of individual developments under the proposed Land Use Plan. The proposed Community Design Element will reduce the negative aesthetic impacts of incompatible development. The element will provide for unifying design elements in the City, such as signage, landscaping, pedestrian amenities, and buffers between roadways and development. The Elment can also help protect scenic views and roadways and

regulate the physical design of projects to establish community character. Mitigation measures above are anticipated to reduce potential impacts to a less than significant level.

4.2.16 CULTURAL RESOURCES

Environmental Impacts

The proposed land use plan covers a larger area and allows more intensive development than the existing land use plan. The larger Planning Area incorporates more of the valley floor as well as foothill areas. Review of information maps from the UCLA Archaeological Information Center identified areas that have been surveyed for archaeological or historic resources and recorded archaeological and historic sites. Review of the Paleontologic Sensitivity Study and maps indicated areas that are likely to have paleontologic resources because of the geological formations present and the resources that have been identified in the formations. These reviews found that the larger Planning Area contains identified cultural resources and there is a high probability that additional, as yet unidentified, resources are present. The higher density development shown in the proposed land use plan, increased population, and the larger Planning Area will result in impacts to, or loss of, more cultural resources. Implementation of the roadway extensions and utility lines specified in the Circulation Element and Public Services Element could also result in impacts to cultural resources.

Archaeological resources such as village sites or temporary camps are often found in areas that are particularly attractive for residential development, including the lower foothills, the mouths of canyons, along streams, or adjacent to springs. These areas were also attractive to historic settlers and may contain historic sites. Ceremonial sites, rock art, or hunting blinds are often found at the top of hills or on the top or sides of ridges or on interesting rock formations. Indian burial grounds are often found along drainages but may be found in other areas as well. Roadways and infrastructure improvements often follow drainages.

Impacts on archaeological sites include direct impacts where grading and earth moving activities for structures, roadways, or infrastructure physically remove the site, and indirect impacts due to vandalism (such as defacement of rock art or collection of artifacts) in sites that are accessible to the public. When higher density development

occurs in outlying areas and as higher population density is present, there is a higher potential that more sites will be impacted. As a result of direct and indirect impacts, the non-renewable resources can be lost along with the scientific information contained in the sites.

The impacts on archaeological resources are considered significant under the California Environmental Quality Act (CEQA) when they would affect an "important archaeological resource". An "important archaeological resource" is one which meets the following criteria in Appendix K of CEQA.

1. Is associated with an event or person of:

    a. Recognized significance in California or American history, or

    b. Recognized scientific importance in prehistory.

2. Contains information which is both of demonstrable public interest and useful in addressing scientifically consequential and reasonable or archaeological research questions;

3. Has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind;

4. Is at least 100 years old and possesses substantial stratigraphic integrity; or

5. Involves important research questions that historical research has shown can be answered only with archaeological methods.

If a site is not considered important under these criteria, the impact on it is not significant under CEQA.

Potentially significant historic resources include structures and sites such as Barrel Springs, that may have local or regional significance. These resources in the older sections of the City may be affected by increases in development density under the proposed General Plan which will encourage redevelopment that would result in the loss of the sites. Sites or structures in the outlying areas of the valley floor or the foothills may be impacted by development of increased intensity. Direct impacts include demolition and removal of sites by earth moving activities. Indirect impacts include collection of artifacts and vandalism.

Paleontological resources could be impacted by the implementation of the Land Use Element and the Circulation Element. Generally, areas of high potential for paleontologic resources are present along the San Andreas Rift Zone, throughout the Planning Area from Leona Valley to Littlerock, and areas of unknown potential are present on the valley floor.

State and federal environmental protection laws require the review of individual projects to mitigate their potential impacts on important paleontological resources. A paleontologic resource is important when it:

1. Provides important information on the evolutionary trends among organisms, relating living inhabitants of the earth to extinct organisms.

2. Provides important information regarding development of biological communities or interaction between botanical and zoological biotas.

3. Demonstrates unusual or spectacular circumstances in the history of life.

4. Is in short supply and in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and is not found in other geographic locations (Reynolds 1990).

Impacts on archaeological, historic, and paleontological resources are considered potentially significant.

Mitigation Measures

The General Plan contains goals, policies, and implementation programs that were established to mitigate the impacts of future development. They are guidelines and actions that will be implemented by the City to address citywide concerns. Although part of the proposed project, these goals, policies, and programs will serve as mitigation measures for the environmental impacts of development under the General Plan. Implementation programs contained in the Environmental Resources Element will provide citywide mitigation to reduce impacts to archaeological, historical, and paleontological resources.

B: Archaeological, Historical, and Paleontologic Measures. Historical, archaeological, and paleontological resource information maps shall be prepared for use by city staff to identify areas with a high potential for resource sensitivity. The maps shall be used to evaluate the need for cultural resource surveys prior

to development. Projects in areas likely to contain cultural resources will be required to prepare surveys and submit reports. Appropriate testing and preservation, mitigation, or salvage will be required.

V: Cultural Resources. The City should map all known historic, archaeological, and paleontological resources and ensure the protection of these resources. The City will review plans for development in potentially sensitive areas. Development in paleontologic and archaeologic sensitive areas where impacts cannot be mitigated should be discouraged.

Objective ER7.1. Promote the identification and preservation of historic structures, historic sites, archaeological sites, and paleontological site resources in the City.

- **Policy ER7.1.1**. Identify and recognize historic landmarks from Palmdale's past.
- **Policy ER7.1.2**. Promote maintenance, rehabilitation, and appropriate reuse of identified landmarks where feasible.
- **Policy ER7.1.3**. Require that new development project significant historic, paleontological, and archaeological resources, or provide for other appropriate mitigation.
- **Policy ER7.1.4**. Develop and maintain a cultural sensitivity map. Require special studies/surveys to be prepared for any development proposals in areas reasonably suspected of containing cultural resources, or as indicated on the sensitivity map.
- **Policy ER7.1.5**. When human remains suspected to be of Native American origin are discovered, cooperate with the Native American Heritage Commission and any local Native American groups to determine the most appropriate disposition of the human remains and any associated grave goods.

Full implementation of these mitigation measures would reduce impacts to cultural resources to a level less than significant.

SECTION 5

SIGNIFICANT ADVERSE IMPACTS WHICH CANNOT BE MITIGATED TO A LEVEL OF INSIGNIFICANCE

This section discusses the adverse impacts that may result due to the implementation of the General Plan. While mitigation measures have been recommended on a citywide level, future development in the Planning Area will continue to have impacts on the environment.

5.1 GEOLOGY

Development will alter the topography and surface geology of the area. Grading and land preparation activities for development projects will result in ground surface disturbance in areas designated for urban uses. The proposed Land Use Plan allows more residential development on the hillside areas than the existing plan. Even after mitigation measures are implemented, the aesthetic quality of the hillside area will be altered from vacant land to low density development.

Impacts which will create geologic hazards will be mitigated to the maximum extent feasible. However, due to the city's proximity to the San Andreas fault, the potential impacts of a major earthquake cannot be mitigated to a level of insignificance. It is expected that in the event of a major earthquake along this fault, significant damage throughout the Planning Area will occur. This potentially significant unmitigable impact is similar to that which would occur in most cities in California which are close to the San Andreas Fault system.

5.2 AIR QUALITY

Significant increases in air emissions are anticipated to result from buildout under the proposed land use plan. These increases include short-term construction emissions and long-term mobile and stationary emissions. Mobile emissions will increase significantly due to vehicle and aircraft emissions. Programs and policies within the Circulation and Environmental Resources Elements will substantially reduce pollutant levels from mobile and stationary sources by requiring measures to reduce vehicle trips and encourage the use of alternative modes of transportation. Stationary source emissions would be reduced by the use of energy efficient buildings and

appliances. However, because of existing exceedances of air quality standards in the Planning Area and the South Coast Air Basin, air quality impacts of development cannot be reduced to less than significant levels.

5.3 WATER RESOURCES

Groundwater resources and aqueduct water are used to serve the water needs of development in the Planning Area. Implementation of the proposed land use plan will place a greater demand on water resources in Palmdale. Overdrafting and depletion of groundwater resources will continue without the establishment of conservation and recharge programs. If programs to conserve water and recharge the aquifers are successful, there will be no adverse impacts on groundwater resources, and sufficient supplies will be available to provide for the needs of future development.

5.4 BIOLOGY

Future development will result in the loss of existing biological communities and habitats. Implementation of mitigation measures, standards, and ordinances to protect biological resources from damage and destruction will lessen the impacts of development but not to a level of insignificance. Buildout under the proposed plan will significantly reduce the acreage of sensitive habitats and reduce the number of sensitive species. The introduction of suburban and urban development to currently vacant lands may damage or fragment ecological communities, reducing their chances of survival.

5.5 NATURAL RESOURCES

The proposed plan designates urban uses for the majority of the Planning Area at buildout. This would mean the loss of existing open space, agricultural land, and limited access to sand and gravel resource areas. Nonrenewable and renewable natural resources would be consumed with the development of residential and non-residential land uses. Implementation of the mitigation measures and open space and conservation programs will reduce most of these impacts to a less than significant level. However, the reduction of open space areas cannot be mitigated to a less than significant level.

5.6 LAND USE

Development under the proposed General Plan will result in the intensification of existing land uses. Currently, vacant areas would be developed with a range of uses, from low density residential in the southwestern portion of the Planning Area to industrial and airport-related uses in the north and northeast. The Land Use Element contains standards and programs to reduce adverse impacts resulting from most development. These measures will reduce land use compatibility impacts to a less than significant level.

5.7 POPULATION

Future development in the Planning Area will be accompanied by population growth. This growth will increase population densities and the need for housing in the Planning Area. Impacts associated with population growth will be mitigated to a level of insignificance. However, a significant impact on the Planning Area's job/housing balance will remain after implementation of mitigation measures due to the anticipated job-rich condition at buildout.

5.8 HOUSING

The allowable housing development under the proposed land use plan will provide for adequate housing to meet the demand in the Planning Area. Affordable, accessible, and special needs housing will be provided through the housing programs established by the City. Thus, impacts to housing will be mitigated to a level of insignificance. However, the proposed land use plan would result in a job/housing imbalance that would remain significant even after mitigation because of the anticipated job-rich condition at buildout. The existing housing-rich condition is expected to continue for many years as non-residential growth occurs.

5.9 TRAFFIC AND CIRCULATION

Increased development and population growth will represent a significant unavoidable impact on the existing circulation system. Traffic and circulation impacts will occur as some street segments will operate at unsatisfactory levels of service. Increased traffic volumes will require road improvements and management

measures to maintain good traffic flow. Even with a revised circulation plan, TDM measures, and other transportation programs, not all roadway links will operate at LOS D or better at buildout. Traffic impacts will be reduced to acceptable levels on most roadway segments; however, significant impacts are anticipated to remain at 11 roadway segments.

If regional freeway improvements are not enacted, impacts will be more severe. The regional improvements are the responsibility of other agencies, and are not under the direct control of the City. Although the City works with other agencies to develop plans and encourage their implementation, actual approval and implementation of these facilities are not within the City's power.

5.10 PUBLIC SERVICES

Fire Protection

The proposed General Plan would increase the demand for fire protection services in the Planning Area. However, implementation of mitigation measures will minimize the impacts to a level of insignificance.

Police Protection

Population growth and development will increase the need for police protection services. Implementation of mitigation measures will minimize impacts on police protection services to a less than significant level.

Schools

Because of existing overcrowding in the school districts serving the Planning Area, the impacts of population growth on school services will be significant. General plan programs will reduce the impacts to a less than significant level. Significant impacts are not anticipated at buildout; however, existing deficiencies will continue until new school facilities are developed.

Parks and Recreation

Parks and recreation facilities would be needed to support the growing population. Approximately 98 percent of required parks would be designated to meet city standards with implementation of mitigation measures. No adverse impacts are anticipated with the implementation of the proposed mitigation measures.

Library Services

Development in the Planning Area will increase the demand for library services. The timely expansion of library space and services will reduce the impacts on libraries that may result from future development and population growth. No unavoidable adverse impacts are expected after mitigation. However, because of existing service deficiencies, impacts of growth will be significant until planned new and expanded facilities are implemented.

Hospital Services

Development under the proposed land use plan will increase the need for hospital services in the Planning Area. Public and private businesses will need to expand the facilities and services to accommodate this need. No significant adverse impacts are expected.

5.11 PUBLIC UTILITIES

Water Services

Future development will increase the demand for water in the region where overdrafts of groundwater resources have occurred. Mitigation measures will minimize the impact on water service, but not eliminate it. If efforts to conserve water and recharge the groundwater basin are successful, impacts to water service can be reduced to less than significant levels.

Sewer Services

Implementation of the proposed draft General Plan will create significant impacts on sewer service and existing sewage treatment plants in the area. Implementation of the mitigation measures and public utility standards and programs will help provide for sewer service throughout the Planning Area and will facilitate the expansion of sewage treatment plants in a timely fashion. Thus, the impacts on sewer services will be reduced to an insignificant level, provided that sewer capacity plans and facilities are in place when planned growth occurs as required by the General Plan.

Solid Waste

Solid waste generation in the Planning Area will impact the Antelope Valley Landfill. Implementation of the mitigation measures will reduce impacts on solid waste disposal and landfills. Recycling programs will help reduce solid waste disposal needs and extend the life of landfills. Implementation of the City's Solid Waste Management Plan and other measures to reduce solid waste will reduce impacts to a less than significant level.

Storm Drainage

Implementation of the Drainage Master Plan will reduce street flooding and provide the City with a system to properly dispose of stormwaters. Thus, impacts on storm drainage will be reduced to less than significant levels.

Power

The projected increase in the demand for electric power are expected to be within projections for power consumption in the region and thus will have no adverse impacts on the service provider. There will be greater use of energy resources to produce the needed power. Energy conservation measures will decrease the anticipated demand for power and energy resources. Impacts will be mitigated to a level of insignificance.

Natural Gas

Development and population growth will increase the demand for natural gas. There are adequate resources to meet this demand and no adverse impacts are anticipated. Increased consumption will place greater demands on natural gas resources. Impacts will be mitigated to a level of insignificance.

Telephone

No adverse impacts are anticipated.

Cable

No adverse impacts are anticipated.

5.12 RISK OF UPSET

Earthquake Hazards

Development near the earthquake fault would increase the risk of personal injury and property damage. Implementation of the mitigation measures will reduce the hazards of earthquakes to property and minimize physical harm, but will not eliminate the hazards associated with an earthquake on the San Andreas fault. The City's proximity to the San Andreas Fault carries the potential of impacts due to a major earthquake that cannot be mitigated to a level of insignificance. It is expected that should a major earthquake occur, significant damage to the Planning Area will occur. This potentially significant impact is similar to that which will occur in most cities in California that are close to the San Andreas Fault system.

Aircraft Accident

Development near the aircraft crash zone of the USAF Plant 42 and the proposed regional airport would expose residents and businesses to an increase in potential aircraft accidents. Implementation of the mitigation measures will reduce hazards associated with aircraft accidents to a less than significant level.

Hazardous Materials

Hazardous materials use, disposal, and transport in the Planning Area may threaten public health and safety. Implementation of the mitigation measures will reduce the risks associated with hazardous materials or wastes contamination to a level of insignificance.

5.13 NOISE

Increased traffic and the intensification of land uses will expose more residents to noise impacts. Noise impacts on existing and future development along major transportation corridors and within the airport noise impact areas can be reduced to less than significant levels with the implementation of mitigation measures.

5.14 LIGHT

Future development will increase light and glare impacts in the Planning Area, as well as create shade and shadows on existing development. No adverse impacts are anticipated after the implementation of mitigation measures contained in the General Plan.

5.15 AESTHETICS

The visual quality of the area will change with development, but the community design guidelines, currently under preparation, are expected to reduce the negative aesthetic impacts of urbanization. Hillside development will change the aesthetic quality of the San Gabriel and Sierra Pelona mountains and high density development will alter existing viewsheds to the foothills and mountains. Implementation of the mitigation measures and

programs anticipated in the Community Design Element will reduce aesthetic impacts to a less than significant level.

5.16 CULTURAL RESOURCES

Development on hillside areas and the valley floor will result in the disturbance and destruction of existing cultural resources. Proposed mitigation measures and programs will allow for the maximum preservation and mitigation through salvage when necessary of these resources. Impacts will be mitigated to a less than significant level.

SECTION 6

LONG TERM IMPACTS

6.1 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Implementation of the Palmdale General Plan will result in the intensification of urban development in the City and Planning Area. Approximately 139,205 dwelling units on approximately 49,208 acres of residential land are anticipated by the proposed plan at buildout, as well as 3,699 acres of commercial uses and 42,539 acres of industrial uses (including commercial, manufacturing, business park, and airfield and related uses). An additional 885 acres will accommodate public facilities, 9,458 acres are designated for parks and open space areas, and 5,738 acres are designated for mineral resources extraction. New structures built in accordance with the Plan will represent a short-term use of the environment; however, implementation of the plan represents a continued long-term commitment to urbanization and population support systems. Areas urbanized during the life of the Plan are not likely to revert to rural or undeveloped uses. Long-term effects associated with Plan implementation include increases in traffic, mobile and stationary air pollutants, noise, aesthetic impacts, impacts on biological resources, and demands on public services and utilities.

Implementation of the Plan would also limit the range of beneficial uses of the environment. For example, once an area is developed, its potential use as a natural habitat for native desert species would end. The land would not be expected to revert to a natural habitat use at any foreseeable time after development.

Development in accordance with the Palmdale General Plan could also pose some long term risks to public health and safety. The plan does not prohibit development in flood zones, aircraft accident potential zones, or Alquist-Priolo special studies zones, although several policies and implementation plans will restrict the type and density of this development. The plan elements are intended to minimize these adverse effects of development, and mitigation measures will be included in the development of individual projects. Because the General Plan will be implemented over a 20-year period, many of the environmental impacts associated with its implementation will be incremental and cumulative over the long-term rather than immediate.

The Palmdale General Plan is intended to manage the use of environmental resources and balance the growth that has occurred over the last several years, which is expected to continue through the decade and beyond. It is justified at this time to bring the City into compliance with state law requiring the adoption and periodic update of general plans.

6.2 SIGNIFICANT IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES WITH PLAN IMPLEMENTATION

As a result of alterations to the physical environment, the implementation of the Palmdale General Plan will result in a significant irreversible commitment of resources, including construction materials, prime biological habitat, water, and energy resources.

Implementation of the Plan will alter the pattern of development in the City by encouraging specific types of land uses in various areas. The land use changes prompted by the Plan will effectively commit the land to that use and reduce the amount of land available for other uses.

Construction activities carried out in accordance with the Plan will consume such non-renewable resources as sand, gravel, and steel, and renewable resources such as lumber. Energy resources will also be irretrievably committed during construction. As the City continues to grow, residents and employees will require a further commitment of energy resources in the form of natural gas and electricity generated by hydroelectric power, coal, solar, or nuclear power for utilities. Irreversible commitments of fossil fuels will also be required to support the transportation of people and goods. These commitments will be long-term obligations.

Land is another resource that will be irreversibly committed during the implementation of the General Plan. Buildout of the Plan represents a commitment to the continued urbanization of the Palmdale area. Land committed to urban uses is unlikely to revert to open space uses, even after the 50- to 75-year lifespan of the physical structures is reached, due to the infrastructure and facilities that will be in place.

Implementation of the General Plan will also result in significant environmental changes within the City and Planning Area. This EIR contains many mitigation measures based on the implementation plans, policies and

objectives contained in the plan that are designed to limit environmental damage from development. However, these measures will not prevent or eliminate all environmental damage, and unavoidable adverse impacts of development will result in a certain amount of irreversible environmental damage.

Increased urbanization will bring more people and activities to the Palmdale area, cause more automobile trips to be made, and will result in increases in air pollution. While mitigation measures can reduce the amount of pollutants generated, population increases will cause the air quality to deteriorate. Similarly, increases in vehicle trips will cause traffic congestion and eventually reduce the level of service of some roads to below acceptable levels. However, the Circulation Element contains many roadway improvements that will keep levels of service acceptable on most roadway segments. Some mitigation measures suggested to control air quality and traffic impacts may change over time with advances in air pollution control technology; factors, such as advances in automobile emission reduction technology, are beyond the City's control.

Urbanization will also result in greater demand for public services and utilities. Fire and police departments will need to increase personnel and equipment, and additional schools, parks, libraries, and hospitals will be needed. The Plan provides for increases in these areas, but it is likely that the provision of these services will lag behind demand, and result in temporary service shortages. Demands on public utilities will increase, resulting in the need for more water, more sewer capacity, storm drainage facilities, and solid waste disposal facilities, in addition to communication and energy needs. Development of these utilities, while minimizing impacts to the urban environment, will cause some adverse impacts on the natural environment. The mitigation measures identified will minimize, but not eliminate, these impacts.

Other changes to the environment that come with urbanization include increased levels of noise and light. Traffic noise and noise associated with increased activity and land use intensity will increase with the projected growth in population. These activities will require artificial lighting, raising the level of ambient light during nighttime hours. Light and noise are expected by-products of development and will be reduced, but not eliminated, with the mitigation measures identified. There are no measures available that could prevent the expected noise and light increases. Therefore, urbanization will result in some irreversible impacts in these issue areas.

Natural resources in the Planning Area will also experience impacts with development. Projected increases in population will require increases in water consumption, which could severely strain groundwater sources. Once development occurs, a commitment exists for provision of services. If groundwater recharge to sufficient levels does not occur, damage to water dependent natural features may result and the City may face shortages in water supplies.

The process of development itself will alter land use in the Palmdale area. The conversion of undeveloped land to residential, commercial, or industrial use will prevent open space or biological habitat uses on the land. Access to mineral resources will be limited, biological habitats will be reduced, and the topography of some areas will be altered. Areas currently considered hazardous because of flood potential, hazardous materials, or earthquake danger, may be developed as urbanization progresses. Development will also disturb cultural resources, some of which the City will not be able to preserve. Land use restrictions can contain this development in less sensitive areas, but cannot eliminate or prevent adverse impacts. Programs to protect sensitive areas and resources will only be effective if they are supported politically and financially.

SECTION 7

GROWTH-INDUCING IMPACTS OF THE PROPOSED ACTION

The City of Palmdale General Plan is intended to allow the residential and employment growth desired by the City while remaining sensitive to the community's environmental and infrastructure needs. The implementation of the Land Use, Housing, Public Services, and Circulation Elements will affect the amount and pace of growth in the community. The Safety, Public Services, Environmental Resources, and Noise Elements will serve to manage growth with the appropriate restrictions.

Growth-inducing impacts can be either direct or indirect. Direct growth-inducing impacts are generally associated with the provision of urban services, such as utilities, improved roadways, and police protection, to an undeveloped or rural area. The provision of these services allows new residential, commercial, and industrial development to occur more easily, and can induce landowners to convert their property to urban or more intense urban uses. Indirect, or secondary, growth-inducing impacts consist of growth induced by the additional demand for housing, goods, and support services associated with the population and employment increases caused by, or attracted to, urban growth. Providing the infrastructure and services needed for growth that has already occurred in Palmdale will induce additional growth, producing a cyclical pattern of growth in the community.

The implementation of the General Plan will allow for the intensification of urban land uses in several areas of the City, focusing on the development of the central area. This will encourage short-term construction employment as well as long-term employment in commercial and industrial land uses. Additional employment opportunities in the City will create a demand for housing. Roadway improvements and the provision of public services throughout the City will encourage residential, commercial, and industrial construction, which will increase the local population and employment bases. The intensification of land uses will foster growth in water consumption as well as the generation of sewage and solid waste.

SECTION 8

CUMULATIVE IMPACTS

8.1 RELATED PROJECTS

State CEQA guidelines (Section 15142) require the identification of public and private projects that, together with the proposed project, will cumulatively impact the environment of the region. Future development in the neighboring city of Lancaster, as well as in unincorporated areas of the Antelope Valley, are considered projects that would have cumulative impacts on the region. As a result of interdependent links (i.e., competitive housing prices, industry, economy) and similarities in the development trends between Palmdale and Lancaster, buildout in Palmdale is expected to be concurrent with buildout in Lancaster and unincorporated county areas in the Antelope Valley.

Table 8-1 provides land use designations under the proposed land use plan for the Palmdale Planning Area. Target buildout of this plan will result in 139,205 dwelling units with an estimated 441,285 residents, 51.8 million square feet of commercial space, 478.8 million square feet of industrial space, and 3.8 million square feet of public facility uses. Airfield and related uses would account for approximately 134 million square feet of development.

The City of Lancaster recently revised their General Plan. Table 8-2 provides the land use designations for the Lancaster Planning Area. Buildout of this plan will result in 204,1792 dwelling units with 647,247 residents (assuming 3.17 persons per dwelling unit), 40.7 million square feet of commercial space, 324.3 million square feet of industrial space, and 36.1 million square feet of public facility uses (Draft EIR, Lancaster General Plan, 1991).

TABLE 8-1

LAND USE CLASSIFICATIONS
PROPOSED LAND USE PLAN

Land Use Category	Area (acres)	Percent Planning Area
Equestrian Residential	3,583	3.21
Low Density Residential (0-1)	22,347	20.04
Single-Family Residential (0-2)	2,239	2.01
Single-Family Residential (0-3)	3,583	3.21
Single-Family Residential (3.1-6)	14,330	12.85
Multi-Family Residential	2,903	2.60
Mobilehome Park	223	0.20
Office Commercial	515	0.46
Neighborhood Commercial	605	0.54
Community Commercial	1,210	1.08
Regional Commercial	1,369	1.23
Commercial Manufacturing	282	0.25
Business Park	5,174	4.64
Industrial	16,526	14.82
Mineral Resource Extraction	5,738	5.14
Airfield and Related	20,557	18.43
Public Facilities	885	0.79
Open Space	7,904	7.09
Parks	1,554	1.39
Total	111,527	100.00

Source: City of Palmdale Planning Department 1992.

TABLE 8-2

LANCASTER GENERAL PLAN LAND USE CAPACITY

	Acreage	Percentage
Residential	163,232	76.0
Commercial	2,333	1.1
Industrial	18,619	8.7
Public Facilities	31,189	14.2
Total	214,373	100.0

Source: City of Lancaster General Plan 1980.

Without quantitative data on buildout of the unincorporated areas of Antelope Valley, projections for 2010 are used as the basis for determining development in the area when buildout of land uses occurs in Palmdale and Lancaster. Table 8-3 contains 2010 projections for the Antelope Valley, Palmdale, and Lancaster. These numbers were generated by the Southern California Association of Governments (SCAG) for the Growth Management Plan for the region. By subtracting the projections for the Cities of Lancaster and Palmdale, the difference represents future development in the unincorporated areas.

Using an employment capacity of 3 employees per thousand square feet of floor area, commercial and industrial space in the unincorporated areas is estimated at 16.43 million square feet. With a coverage factor of 50 percent, actual commercial and industrial land use is estimated at 754 acres. Because there is very little land devoted to industrial uses outside of Lancaster and Palmdale, all 754 acres are assumed to be commercial acreage.

Table 8-4 provides a land use breakdown by jurisdiction for the Antelope Valley. The related projects for the proposed Palmdale General Plan are expected to result in approximately 265,512 dwelling units, 3,087 acres of commercial development, 18,619 acres of industrial development and 30,189 acres of public facilities. Projected population is 841,672 residents.

TABLE 8-3

SCAG 2010 PROJECTIONS

Area/City	Population	Housing Units	Jobs
North Los Angeles County [a]	381,800	160,900	167,600
Palmdale [b]	62,193	30,562	45,139
Lancaster	153,810	69,005	73,172
Unincorporated Areas in North Los Angeles County	165,797	61,333	49,289

a Includes the cities of Palmdale and Lancaster.

b Projections for Palmdale are low (the current population exceeds the SCAG estimate for 2010) which may suggest underestimates for the whole North Los Angeles County area.

Source: SCAG Growth Management Plan 1988.

TABLE 8-4

ANTELOPE VALLEY LAND USE PROJECTIONS

Land Use	Palmdale	Lancaster	L.A. County Unincorporated Areas [a]	Total
Residential	49,208 acres 139,205 du	163,232 acres 204,179 du	-- 61,333 du	-- 404,717 du
Commercial	3,699 acres 51.8 million sq ft	2,333 acres 40.7 million sq ft	754.0 acres 16.4 million sq ft	6,786 acres 108.9 million sq ft
Industrial[b]	48,277 acres 612.8 million sq ft	18,619 acres 324.3 million sq ft	-- --	66,896 acres 937.1 million sq ft
Public Facilities	885 acres 3.8 million sq ft	30,189 acres 36.1 million sq ft	-- --	31,074 acres 39.9 million sq ft

[a] Based on SCAG 2010 projections in 1988 Growth Management Plan.

[b] Includes airfield and related uses and commercial/manufacturing uses.

8.2 CUMULATIVE IMPACTS

The related projects (Lancaster and unincorporated Antelope Valley areas), together with the proposed Palmdale General Plan, represent an intensification of residential, commercial and industrial development over that which currently exists. Cumulatively, development of residential projects in the valley will result in approximately 404,717 dwelling units. Commercial land uses will cover approximately 6,786 acres. Industrial land uses will cover approximately 66,896 acres and public facilities will cover 31,074 acres. Gross floor area will be approximately 108.9 million square feet of commercial space, 937.1 million square feet of industrial space and

39.9 million square feet of public facility space. The regional impacts associated with the development of these land uses are discussed below.

Geology

The topography of the area will change due to grading and earth moving activities that will occur before building and road construction. Hillside development will alter the existing landform and residents could be exposed to geologic hazards of the area. Recommended mitigation measures will reduce the geologic hazards to new development to the maximum extent feasible. However, due to the region's proximity to the San Andreas fault, the potential impacts of a major earthquake cannot be mitigated to a level of insignificance. Should a major earthquake occur, significant damage to the area is expected. This potentially significant unmitigable impact is similar to that which would occur in most cities in California which are close to the San Andreas Fault system.

Air

Implementation of the proposed General Plan and related projects will substantially increase air emissions in the region. Increased commercial, industrial, residential, and airport-related development within the City and the Antelope Valley will result in an increase in emissions which cannot be reduced to a level of insignificance. The increase in emission sources in the area will contribute to production of ozone within the desert area which is currently a receptor of emissions from southern Los Angeles County. The full impact of this pollution will not occur within the Palmdale area but will extend to northern parts of the Antelope Valley where winds carry the pollutants. Implementation of the Air Quality Management Plan is expected to reduce the levels of ozone transported to Palmdale. However, air quality impacts from cumulative growth cannot be mitigated to a level of insignificance.

Water Resources

The proposed General Plan and related projects will result in an increase in population and development of the region. With a greater demand for water, the present overdrafting of groundwater resources will become worse

if recharge is not supplemented. If additional water can be obtained from the California Water Project in the future and efforts to conserve water and recharge the groundwater basin are successful, there could be sufficient supplies to provide for the needs of the Antelope Valley at buildout without adverse impacts to the local aquifer. However, if these measures are not successful, a significant cumulative impact on water resources will occur.

Development will increase impermeable surfaces in the valley. This will decrease water percolation areas and the amount of natural recharge while storm runoff will increase. Water drainage courses will be diverted and flooding hazards could increase. If the regional drainage system is constructed in time to serve development in the region, these impacts would be mitigated to a level of insignificance.

Biology

The proposed General Plan and related projects represent the urbanization of the area which will cumulatively impact biological resources. With the pressure for development, the conservation of ecological communities will become more difficult and ecological systems could be destroyed. Development on hillside areas will disrupt sensitive animal and plant communities, water flow and percolation, as well as views and landscapes. New roads that will be built to serve development may cut through areas of stable biological communities or endangered species.

The regional impacts which will result from the project and cumulative development in the Antelope Valley include the loss of open space and the loss of ecological systems which include desert vegetation and habitat. Urban land uses will remove native vegetation and wildlife with domestic plant and animal species. These impacts can be reduced by mitigation but not to a level of insignificance. Aggressive measures to keep development away from sensitive desert species habitat will be needed.

Natural Resources

The proposed General Plan and related projects will impact the presence of natural resources in the area. Urban development could limit access to, and use of, existing natural resources. Mineral resource extraction may be hindered by incompatible urban development. Open space areas will be lost. Agricultural land could be developed for more profitable urban uses. As the Antelope Valley develops, natural resource areas that are not included under established conservation programs will be lost. Cumulative impacts to open space cannot be reduced to less than significant levels. Impacts on other natural resources are anticipated to be mitigated to acceptable levels.

Land Use

The proposed General Plan and related projects will result in the intensification of residential, commercial, and industrial uses in the Antelope Valley. Urban uses will be concentrated in Palmdale and Lancaster where commercial and industrial land uses are clustered; residential developments will be located throughout the valley and on the hillsides. Land use incompatibilities may be reduced by buffers, service streets, site planning, and other methods of separation. Buildout will not occur unless impacts are mitigated to an acceptable level because further development cannot be allowed if needed public services and infrastructure are not developed.

Population

Implementation of the proposed General Plan will increase the dwelling unit capacity of the Planning Area and allow a larger resident population. The proposed Palmdale General Plan will accommodate approximately 139,205 dwelling units at target buildout with a population of 441,280 persons. Related projects will not contribute to a population increase within Palmdale, but will increase the population of the Antelope Valley by approximately 841,673 persons for a cumulative population of 1,282,953 persons in the region. Employment opportunities will increase substantially in the region as a result of new commercial and industrial development.

Using an estimate of 2 employees per 1,000 square feet for commercial uses and 1 employee per 1,250 square feet for industrial uses, the proposed project and related projects are expected to generate approximately 967,480 jobs at buildout. Based on the 404,717 housing units estimated for the Antelope Valley at buildout, this would result in a job/housing ratio of 2.4, or 2.4 jobs for each housing unit. Although this imbalance could be reduced by housing programs and phased development, the proposed and related plans as currently written and projected are expected to result in a job/housing imbalance (job-rich) that cannot be mitigated to an insignificant level.

The majority of the population will cluster around urban areas and around major transportation corridors with less dense communities in other areas. The impacts associated with population increase are related to other environmental issues, including transportation, noise, air quality, public services, and utilities. Thus, they are discussed under these issues.

Housing

Buildout of the proposed Palmdale General Plan will result in approximately 139,205 dwelling units in the Planning Area. The related projects will add 265,512 dwelling units for a cumulative total of 404,717 dwelling units in the Antelope Valley. Programs to address affordable housing and homelessness are currently under development. It is anticipated that these programs will be in place to serve the housing needs of the population.

As discussed in Population, increases in employment generated by new commercial or industrial development will create a job-rich environment. Implementation of housing programs will reduce the jobs/housing imbalance, but not to an insignificant level.

Traffic and Circulation

The cumulative impacts of the proposed General Plan and related projects will increase traffic volumes throughout the Antelope Valley. The proposed General Plan has a circulation plan to accommodate projected increases in traffic for the Planning Area. It includes upgraded roadways and proposes to expand existing

freeways to maintain acceptable levels of service. Still, not all roads and intersections will operate satisfactorily at buildout.

Developments under the proposed Palmdale General Plan and related projects will result in adverse traffic and circulation impacts as some street segments and intersections will operate at unsatisfactory levels of service even after all available mitigation is in place. These impacts cannot be mitigated to a level of insignificance.

If regional freeway improvements are not enacted, impacts will be more severe. The regional improvements are the responsibility of state agencies, and are not under the direct control of Palmdale, Lancaster or Los Angeles County. Although the cities and counties work with state agencies to develop roadway improvement plans, actual construction of these facilities is outside the responsibility of local jurisdictions.

Because traffic impacts can serve to limit to future development in the area, buildout of the cumulative projects will not occur unless roadways and highways have adequate capacity to handle increases in traffic. Highly congested streets and freeways will discourage further development in the area. Thus, while impacts are not expected to be mitigated to a level of insignificance, extremely adverse impacts on traffic and circulation will serve as pressure for the expansion of the circulation system before additional development takes place.

Public Services

Fire Services

Implementation of the proposed General Plan and related projects will increase the population of the Antelope Valley, resulting in an increased demand for fire protection services. Based on the current firefighter to population ratio of 1:3,800, approximately 338 firefighters plus equipment and facilities will be required to serve the projected 1,282,953 residents of the Antelope Valley. The Los Angeles County Fire Department will have to provide new stations to be located near developed communities to keep response times within reasonable limits and to adequately serve the region. No significant cumulative impacts are anticipated.

Police Services

Implementation of the proposed General Plan and related projects will incrementally add to the service requirements of the Los Angeles County Sheriff's Department. Assuming the current County police to population ratio of 1:1,000 remains ideal, there will be a need for 1,283 sheriff's officers plus equipment and facilities to adequately serve the valley at buildout. No significant cumulative impacts are anticipated.

Schools

The proposed Palmdale General Plan will accommodate 139,205 dwelling units. Related projects will add 265,512 dwelling units for a cumulative housing stock of 404,717 units. Cumulative student generation will be 157,051 elementary students and 80,943 high school students as shown in Table 8-5.

TABLE 8-5

CUMULATIVE STUDENT GENERATION

School	Proposed General Plan	Related Projects[a]	Proposed General Plan and Related Projects
Elementary	50,847	106,204	157,051
High	27,841	53,102	80,943
Total	78,688	159,306	237,994

[a] Elementary and Junior High generation factor of 0.4 students per dwelling unit and High school generation factor of 0.2 students per dwelling unit.

Source: Michael Brandman Associates 1992.

Schools in several school districts serving the area are currently experiencing overcrowded conditions. Thus, impacts of the proposed plan and related projects to school services in the region will be significant in the short term. As new facilities are developed, this impact will be reduced to less than significant levels. Housing development should be regulated to allow schools to provide adequate services to prevent the typical lag of capacity to demand.

Parks and Recreation

Implementation of the proposed Palmdale General Plan will require 2,206 acres of parkland based on the city standard of 2 acres per 400 persons. The City of Lancaster has a standard equivalent to that of Palmdale, but Los Angeles County has a different standard for parks provision. Lancaster requires 5 acres per 1,000 population and Los Angeles County requires an average of 3 acres per 1,000 population. With these standards, approximately 2,587 acres of parkland would be required in Lancaster and 497.4 acres would be required in the unincorporated areas of the Antelope Valley at buildout. No significant impacts are expected as there is room to provide the 5,290 acres of parks in the valley.

Libraries

Implementation of the proposed General Plan and related projects will increase the need for library services in the region. The demand for library space can be estimated using the standard of 0.8 square feet per capita. With the anticipated population of 1,282,953 at buildout of the area, approximately 1,026,330 square feet of library space will be needed. No significant cumulative impacts are anticipated at buildout if library expansion keeps pace with new development. Existing facilities are deficient for the current population; impacts will continue until facilities are expanded.

Hospitals

Implementation of the proposed General Plan and related projects will increase the demand for hospital services in the Antelope Valley region. These services shall be provided by both public and private businesses and will expand as development and the demand increases. No significant cumulative impacts are anticipated.

Public Utilities

Water

The proposed General Plan and related projects are projected to cumulatively demand approximately 293.43 million gallons of water per day as shown in Table 8-6. Buildout will require expansion of water services in the Antelope Valley and additional water resources. Impacts on water services will be experienced by the various water companies serving areas where development will take place. New lines and facilities will be needed in these areas to serve future development. Assuming additional water is made available from the State Water Project, and water conservation and recharge programs are successful, no significant impacts are anticipated. Otherwise, alternative sources of water would need to be developed before additional development can be accommodated in the region. Cumulative impacts on water resources could be significant.

TABLE 8-6

CUMULATIVE WATER CONSUMPTION

Land Use	Square Feet or Unit	Consumption [a] (gpd/unit) (gpd/1,000 sq ft)	Total Consumption (mgd)
Proposed General Plan			135.93
Related Projects			
Residential	265,512 units	400	106.20
Commercial	67.1 million sq ft	120	8.05
Industrial	324.3 million sq ft	120	38.92
Public Facilities	36.1 million sq ft	120	4.33
Total			293.41

gpd = gallons per day
sq ft = square feet
mgd = million gallons per day
[a] City of Los Angeles EIR Guidelines.
Source: Michael Brandman Associates 1992.

Sewer

The proposed General Plan and related projects will generate approximately 243 million gallons of sewage per day as estimated in Table 8-7. Because sewer service is not available in all areas of the valley, future development would require the extension of existing sewer services. Additional treatment plants and sewer mains will have to be constructed to accommodate new development in the area. A Master Sewer Plan for Palmdale, Lancaster and the Antelope Valley is currently under preparation to assess the sewer service needs of the area and plan for the provision of facilities to serve the needs. Sewer service impacts at buildout of Palmdale, Lancaster and the Antelope Valley will be analyzed in detail in that document. Significant impacts on sewer service will be addressed and mitigated.

TABLE 8-7

CUMULATIVE DAILY SEWAGE GENERATION

Land Use	Square feet or Units	Generation Rate [a]	Total (mgd)
Proposed General Plan			112.85
Related Projects			
Residential	265,512 units	330 gpd/du	87.62
Commercial	67.1 million sq. ft.	100 gpd/1,000 gsf	6.71
Industrial	324.3 million sq. ft.	100 gpd/1,000 gsf	32.43
Public Facilities	36.1 million sq.ft.	100 gpd/1,000 gsf	3.61
Total			243.22

[a] Los Angeles City EIR Guidelines

Source: Michael Brandman Associates 1992.

Solid Waste Disposal

The proposed General Plan and related projects are estimated to produce approximately 7,469 tons per day of solid waste at buildout as shown in Table 8-8. This does not take into consideration the reduction of solid waste volume through the required recycling programs as they are established and become successful. Solid waste in the valley will be disposed at the Antelope Valley Landfill, the Lancaster Landfill and other landfill sites that may open to serve the region before buildout. Provided alternative sites are available when the existing landfills are filled to capacity, no significant impacts are expected at buildout.

TABLE 8-8

CUMULATIVE DAILY SOLID WASTE GENERATION

Land Use	Units or Million Square Feet	Generation Rate (lbs/du/day) (lbs/1,000 sf/day)	Total Generation (lbs/day)
Proposed General Plan			7,124,000
Related Projects			
Residential	265,512 units	15	3,982,680
Commercial	67.1	5	335,500
Industrial	324.3	10	3,243,000
Public Facilities [a]	36.1	7	252,700
Total			14,937,880 lbs/day 7,469 tons/day

Source: Michael Brandman Associates 1992.

Storm Drain

Development in the Antelope Valley will increase impervious surfaces, divert natural drainage channels, and increase storm runoff which could increase the potential for flooding. The cumulative impacts of buildout of the proposed General Plan and related projects are expected to require the construction of a regional storm drainage system for the Antelope Valley. Improvements to the existing system shall be undertaken as development takes place, and in accordance with the Antelope Valley Comprehensive Plan for Flood Control and Water Conservation and the Palmdale Master Drainage Plan. With system improvements, no significant impacts are anticipated at buildout.

Power

Development buildout under the proposed Palmdale General Plan and related projects will mean the consumption of approximately 12,108.5 million kWh of electricity per year as shown in Table 8-9. Electrical service will be provided to the area on demand, providing fuel is available. Thus, no impacts which cannot be mitigated to a level of insignificance are anticipated.

TABLE 8-9
CUMULATIVE ELECTRICAL CONSUMPTION

Land Use	Units or Square Feet	Generation Rate[a] (kWh per unit/year) (kWh/sq ft/year)	Consumption (kWh/year)
Proposed General Plan			6,731.9 million
Related Projects			
Residential	265,512 units	6,081	1,614.6 million
Commercial	67.1 million sq ft	8.8	590.5 million
Industrial	324.3 million sq ft	8.8	2,853.8 million
Public Facilities	36.1 million sq ft	8.8	317.7 million
Total			12,108.5 million

a Based on generalized factors from "Common Forecasting Methodology VI, Demand Forecast", SCE 1985.
Source: Michael Brandman Associates 1992.

Natural Gas

Development in the region will mean an increase in natural gas consumption. The cumulative impacts on natural gas service of the proposed General Plan and related projects can be translated to a demand for approximately 6,081.9 million cubic feet of natural gas per month as estimated in Table 8-10. No significant cumulative impacts are expected at buildout of the area.

TABLE 8-10

CUMULATIVE NATURAL GAS CONSUMPTION

Land Use	Cumulative Gas Consumption Square Feet	Consumption Rate[a] (cu ft/du/month) (cu ft/sq ft/month)	Total Consumption (cu ft/month)
Proposed General Plan			2,984.0 million[b]
Related Projects			
Residential	265,512 units	6,665	1,769.6 million
Commercial	67.1 million sq ft	2.5	167.8 million
Industrial	324.3 million sq ft	3.3	1,070.2 million
Public Facilities	36.1 million sq ft	2.5	90.3 million
Total			6,081.9 million

[a] Los Angeles EIR Guidelines 1981.

Source: Michael Brandman Associates 1992.

Telephone

The demand for telephone services will be relative to the rate of development in the Antelope Valley. Additional lines and facility improvements will need to be made to serve the area, and will be added as needed. Cumulative demand is not expected to have significant impacts on service or facilities.

Cable

The demand for cable services will be relative to the rate of development in the Antelope Valley. Additional lines and facility improvements will need to be made to serve the area, and will be added as needed. Cumulative demand is not expected to have any significant impacts on service or facilities.

Risk of Upset

The proposed General Plan and related projects will require emergency planning for earthquake, aircraft accidents, hazardous materials and flood hazards for all developed areas of the Antelope Valley. Due to the presence of the San Andreas fault in the region, the potential impacts of a major earthquake cannot be mitigated to a level of insignificance. It is expected that should a major earthquake occur on the San Andreas fault, significant damage to the area will occur. This potentially significant and unmitigable impact is similar to that which would occur in most cities in California which are close to the San Andreas Fault system.

The cumulative impacts of aircraft accident potential will be associated with the USAF Plant 42, the proposed Palmdale Airport, Edwards Air Force Base, Foxfield Airport and other smaller airports in the valley. Mitigation measures will reduce these hazards to an insignificant level. Also, the impacts of hazardous materials and waste contamination will be mitigated to an insignificant level.

Noise

Development buildout in the Antelope Valley will result in an increase in ambient noise levels in the area. Cumulative noise impacts will increase with the increase in stationary and mobile sources associated with development in the Antelope Valley. These impacts will be greatest along major transportation corridors and within the airport noise impact areas. These impacts can be reduced to less than significant levels with the use of buffers and other mitigations. Noise levels associated with buildout of the area will be higher due to the presence of increased densities of urban development.

Light

Increased development will increase the potential for light and glare impacts to uses throughout the Antelope Valley. It could also produce shade and shadows on adjacent land uses. Light impacts can be mitigated to a level of insignificance with mitigation on a project-by-project basis. However, ambient light levels will increase with cumulative urban development.

Aesthetics

Buildout of land uses under the proposed General Plan and related projects will result in the urbanization of the Antelope Valley which will substantially alter the aesthetic quality of the area. Landscapes and viewsheds will include manmade structures instead of wide expanses of open space. Development on hillside areas will change views of the mountains and their silhouette. Scenic highways that feature native desert vegetation and natural landforms could be lost or degraded. The aesthetic impacts of development are not generally adverse if the development is made compatible with the existing environment and the design is reflective of the overall image of the area.

Cultural Resources

Development under the proposed General Plan and related projects may cumulatively destroy the historical, paleontological, and archeological resources of the area. Cultural resources in the area will be disturbed and destroyed by grading, site preparation, and earthmoving activities for building and road construction. Preservation and relocation programs will minimize the impacts to these resources. Strict compliance with these measures would reduce cumulative impacts on cultural resources to a less than significant level. Identification of cultural resources and preservation measures should be undertaken before further development takes place to ensure complete protection of these resources.

SECTION 9

PROJECT ALTERNATIVES

CEQA requires that a range of project alternatives which could feasibly attain the basic objectives of the proposed project (General Plan Update) be reviewed in the EIR. In conformance with that requirement, the following alternatives will be analyzed in this section: No Project Alternative, Existing General Plan Alternative, Low Density Land Use Plan Alternative, Urban Boundary Alternative, and Future Update Alternative. These alternatives were selected because of their potential to eliminate and/or reduce significant adverse impacts which could result with implementation of the proposed plan.

- **No Project Alternative**: The No Project Alternative assumes that no further development will occur and that existing land uses will remain static. The existing 13,144 acres of residential land (with approximately 35,000 dwelling units), 529 acres of commercial uses, and 1,842 acres of industrial uses would not change in the future.

- **Existing General Plan Alternative**: This alternative assumes that the existing General Plan would remain in place and be implemented through buildout. In those portions of the Planning Area subject to county jurisdiction, the existing county designations would be maintained. This alternative features 48,679 acres of residential land providing for the development of 134,146 dwelling units. Commercial land designations would total 3,733 acres; industrial lands, 43,246 acres.

- **Low Density Land Use Plan Alternative**: A conceptual land use plan allowing more open space areas and reduced development intensities was developed for this alternative. It would provide for the development of 86,646 dwelling units on 30,939 acres. Commercial and industrial development would cover 3,794 acres and 30,249 acres, respectively. Open space designation, allowing the development of one dwelling unit per 40 acres, would be assigned to 45,653 acres of land at buildout.

- **Urban Boundary Alternative**: This alternative would allow development of the proposed plan except that an urban limits boundary would be established which would constrain development from "leap frog" expansion. This could have the effect of delaying certain impacts until later in the buildout process.

- **Future Update Alternative**: This alternative would postpone the General Plan update to some future date. The existing General Plan would remain in force indefinitely, and impacts associated with implementation of that plan would continue.

The development potential of these alternatives are compared in Table 9-1. A summary of the impacts compared to the proposed plan is contained in Table 9-2.

TABLE 9-1

COMPARISON OF PROPOSED PROJECT AND ALTERNATIVES

Land Use	Proposed Plan	No Project	Existing General Plan	Low Density Land Use	Urban Boundary
Residential					
No. of Dwellings					
Maximum	175,003	29,349	175,049	86,646	175,003
Typical	139,205	29,349	134,146	86,646	139,205
Population	441,280	82,689	425,242	274,668	441,280
Acres	49,208	13,144	48,679	30,939	49,208
Commercial					
Acres	3,981	529	3,733	3,794	3,981
Million sq ft	58	7	47	64	58
Industrial					
Acres	47,995	1,842	43,246	30,249	47,995
Million sq ft	607	40	593	282	607
All Other Land Use Categories					
Acres	10,343	96,012	15,869	46,546	10,343
Total Acres 111,527	111,527	111,527	111,527	111,527	
Total Employees	601,900	22,300	567,840	434,988	601,900
Jobs/Housing Ratio	4.3	0.76	4.23	5.02	4.3

Because the Future Update Alternative assumes that a new General Plan will be adopted at some future date, it is not possible to establish a buildout development scenario; therefore, this alternative is not listed in this table.

In analyzing these alternatives, certain assumptions were employed to ensure consistency between alternatives. The list of assumptions is as follows:

1. Within areas covered by residential designations allowing over 4 units per acre, development will not occur at the top of the allowed range. Typical development densities have been used because they better reflect the actual impacts that are anticipated to occur with development. These typical densities were established by the Palmdale Planning Department staff based on development that has previously occurred in Palmdale. Typical development densities are provided in the discussion of each alternative.

2. Because of the requirement for setbacks and parking, development of commercial and industrial projects typically do not utilize the full floor/area ratio allowed by the General Plan and Zoning Ordinance. Similarly to the residential projects, typical development densities were determined for commercial and industrial properties so that the assessment of impacts from these developments would be more realistic. These typical development densities are also provided in the discussion of each alternative.

3. Industrial development of airfield and related uses will be limited by the need for runways, taxiways, ramps, parking facilities, terminals, and clear areas. Therefore, it is assumed that no more than 30 percent of the area dedicated to this use will be built on.

4. For consistency between alternatives, the Planning Area boundary was assumed to be stable, covering 111,527 acres.

9.1 NO PROJECT ALTERNATIVE

Under the No Project Alternative, existing land use patterns would be presumed and no further development would occur. The current land use patterns would fulfill the same function as "buildout" under the General Plan. Under such circumstances, there would be no need for a General Plan update. Because the Planning Area would have reached its final form, new policies, programs, and goals would not be needed.

Table 9-3 provides a breakdown of the existing land use designations. It includes 13,144 acres of residential land, 1,842 acres of industrial land, and 529 acres of commercial land.

TABLE 9-3

LAND USE DESIGNATIONS
EXISTING LAND USES

Land Use	Area (acres)	Percent
Agricultural	741	0.7
Rural Residential	1,342	1.2
Single Family	10,841	9.7
Multi Family	717	0.6
Mobile Home	244	0.2
Commercial	529	0.5
Industrial	1,842	1.7
USAF Plan	5,420	4.9
Public Facilities	494	0.4
Parks and Open Space	677	0.6
Vacant[a]	88,630	79.5
Total	111,527	100.0

Source: Michael Brandman Associates from survey and aerial photographs, May 1989, updated January 1992.

9.1.1 IMPACTS

The impacts discussed below relate specifically to current land uses. The analysis does not include a discussion of the impacts related to policies and programs currently in effect. A comparison with the impacts of the proposed general plan is made to identify the advantages and disadvantages of the No Project Alternative.

Geology

Because no future development would occur under the No Project Alternative, vacant hillside areas would be preserved; no new residents would be exposed to geologic risks such as slope failure. No future grading and slope disturbance would occur. The proposed plan's land use designation (1 du/ac) for this area is more intensive than existing development. Thus, the No Project Alternative would have fewer geological impacts than the proposed plan.

Any hazards relative to the potential for soil expansion, erosion, soil infiltration, subsidence, liquefaction, and hydrocompaction that presently exist will persist in developed areas. However, under the No Project Alternative, no new residents and users would be exposed to geologic hazards in the area, in contrast to the proposed plan.

Many areas of the San Andreas Fault Zone are currently undeveloped, and would remain so under the No Project Alternative. The risks to development associated with groundshaking, fissures, and other consequences of an earthquake on the fault would not occur in these areas. Existing development along the fault zone would remain at the existing low intensity, which would mean a lower risk from earthquake hazards in the area.

Air Quality

Under the No Project Alternative, no new sources of air emissions would be developed to impact air quality in the Planning Area. Air pollutants in the Southeast Desert Air Basin (SEDAB) are currently below the state and national standards for all criteria pollutants except ozone and particulate matter. At typical buildout of the proposed General Plan, air quality in the Planning Area would be impacted by mobile and stationary source emissions. Therefore, the no project alternative would have fewer air quality impacts than the proposed plan.

Water Resources

Under the No Project Alternative, existing water demand would remain relatively constant. In contrast, the proposed General Plan would place a greater demand on groundwater and imported water resources due to the increased need for water to support development at buildout. As discussed in Section 3.11.1 (Water), the water consumption needs of the Planning Area at buildout under the proposed plan would be approximately 136 million gallons per day (mgd). Under the No Project Alternative, water demand would remain at approximately 16 mgd, representing approximately 88 percent less water consumption.

Although no development would occur on the floodplains of Little Rock Wash, and Anaverde, and Amargosa Creeks under the No Project Alternative, it does not call for new flood protection measures. The proposed plan places restrictions on development in flood prone areas as well as ensuring implementation of flood protection measures. However, the proposed plan would allow development over a much larger area at higher lot coverage. The proposed plan would increase the amount of impervious surfaces which would increase runoff potential, and in turn, increase flooding potential. Thus, the No Project Alternative would have less impact on the natural drainage courses and less runoff potential than the proposed plan.

Biology

The No Project Alternative would maintain the existing ratio between developed and vacant land such that substantially more open space would be provided than under the proposed plan. Thus, the No Project Alternative would result in less disruption of biological communities. Whereas the No Project Alternative would maintain hillside areas and Little Rock Wash as open space, the proposed plan would allow limited development of these areas. Present conditions provide 88,630 acres of vacant land. At buildout of the proposed plan, 7,904 acres would be provided as open space.

The West Alpine Butte Wildlife Sanctuary near the Big Rock Wash area is designated as open space in the proposed plan. Although this area would not receive a similar designation under the No Project Alternative, it would remain in its present undeveloped condition. Thus, both plans would maintain the biological resources

in this area. Overall, the No Project Alternative provides substantially more protection for desert habitat and resources.

Natural Resources

The No Project Alternative designates approximately 80,000 acres more open space than the proposed plan. This alternative would maintain these open space areas, preserving more of the natural landscape than the proposed plan.

The No Project Alternative would allow the continued extraction of sand and gravel resources within the existing quarries. These quarries are generally concentrated in and adjacent to Little Rock Wash, an area determined to contain regionally significant sand and gravel resources. The proposed plan would designate these quarries and an extensive area adjacent to the quarries as Mineral Resource Extraction areas. This designation would allow extraction of sand and gravel resources throughout a larger area than would be allowed under the No Project Alternative, although access may be limited by adjacent uses. Mineral Resource Extraction under the No Project Alternative would be limited in comparison to that under the proposed plan.

Land Use

Under the No Project Alternative, the Planning Area has already achieved "buildout"; no land use changes would occur to the existing conditions. Existing land uses in the Planning Area consist of 13,144 acres of residential uses (developed with approximately 35,000 dwelling units), 529 acres of retail and office uses, 1,842 acres of industrial uses, 494 acres of public facilities, and 677 acres of parks and open space uses. The proposed land use plan would provide for 49,208 acres of residential land (139,205 dwelling units at buildout), 3,981 acres of commercial uses, 47,975 acres of industrial and airfield-related uses, 885 acres of public facilities, and 9,458 acres of parks and open space.

The No Project Alternative represents lower development densities and intensities than the proposed land use plan, and would therefore, result in fewer impacts on noise, traffic, biological resources, and public facilities and utilities. The existing conditions may contain some incompatible uses that could be resolved with the policies

and programs of the proposed General Plan. However, in general, the No Project Alternative would have fewer land use impacts than the proposed land use plan.

Population

The Department of Finance (DOF) has estimated the 1992 population of the City of Palmdale at 84,238 residents. The 1992 population of the Planning Area is estimated at over 100,000. This population size would remain constant under the No Project Alternative. DOF estimates an average household size of 3.17 in 1992. If this figure remains constant, the proposed General Plan would result in a population of 441,280 in the Palmdale Planning Area at typical buildout, occupying approximately 139,205 housing units.

The City estimates that there are approximately 22,300 jobs in Palmdale as of 1992. The existing jobs/housing balance in the city is estimated at 0.76 jobs per dwelling unit, which is below the regional standard of 1.22 jobs per dwelling unit, indicating a housing-rich situation. Under the proposed plan, there would be approximately 601,900 jobs produced at the typical buildout, representing a jobs/housing balance of 4.3 jobs per housing unit, indicating a jobs-rich situation. The Planning Area's buildout capacity under the proposed plan is 4.5 times the current (1990) population, and job capacity would be approximately 27 times the existing employment level. Population and employment increase would create impacts on public services and utilities, in addition to traffic and noise impacts. The No Project Alternative would result in fewer impacts than the proposed plan.

Housing

Currently, there are 29,348 dwelling units in Palmdale, of which 26,085 were occupied in 1990. This indicates a high vacancy rate of 11 percent. The number of dwelling units in the Planning Area in 1992 is estimated at over 35,000 units. The proposed plan has a dwelling unit capacity of 154,074 and anticipates a vacancy rate of 2 percent for single-family and 5 percent for multiple-family units. The proposed plan includes housing programs to provide housing for groups with special needs who may not have adequate resources under current conditions. Therefore, the proposed plan would provide greater housing options than the existing plan.

Transportation and Circulation

The No Project Alternative will generate no new vehicle trips. Existing trips, estimated at 482,488 trips per day, will remain. Buildout of the proposed plan with the existing circulation plan will result in 3,528,026 daily trips and 11 roadway segments operating at LOS D or worse. Currently, most arterials operate at acceptable levels or service, and there are only five roadway segments operating at LOS E or F:

- Sierra Highway, between Avenue M and Avenue P.
- Palmdale Boulevard, between the Antelope Freeway and 30th St. East.
- SR 138.
- Avenue S, between the Antelope Valley Freeway and Sierra Highway.
- Pearblossom Highway, between Barrel Springs and 30th St. East.

Road rights-of-way are generally narrower under the No Project Alternative and many planned roadways have not been fully constructed. The proposed plan would generate significantly more traffic and circulation impacts than the No Project Alternative, but would provide for substantial improvements to the roadway network. The No Project Alternative would have fewer traffic impacts than the proposed project.

Public Services

The existing development contained in the No Project Alternative would create a lower demand for public services than the increased development under the proposed plan. However, General Plan policies could increase the capacity of services and eliminate existing deficiencies.

Fire Protection

Existing levels of fire protection are adequate for the existing population. The proposed land use plan includes more residential, industrial, and commercial development than the No Project Alternative, and less open space. The proposed development would increase the need for additional fire protection services within residential and

commercial areas. The risk of industrial and chemical fires will also increase as this sector of the community develops.

The lower population capacity of the No Project Alternative would mean no increase in the need for fire protection services. Under the No Project Alternative, the demand for fire protection services would be less for residential, commercial, and industrial land uses because there is less land area devoted to these uses.

Police Protection

Under the No Project Alternative, there would be no increase in the demand for police services. Increased development, such as that allowed under the proposed plan, generally require more police services than lower density development.

Schools

Based on single-family housing student generation factors for the existing number of housing units in the Planning Area (approximately 35,000) current public elementary school enrollment in Palmdale is approximately 15,000 students (1991-1992), which would remain constant under the No Project Alternative. High school enrollment under the No Project Alternative would continue to be approximately 10,500 students. Nearly all schools in the Palmdale area are presently near or over capacity. Buildout of the proposed General Plan would result in the generation of approximately 50,847 elementary students and 27,841 high school students.

While the proposed plan would require 78 elementary schools and 14 high schools at target buildout, the plan provides policies and programs to encourage school expansion. The No Project Alternative would provide 21 elementary and 5 high schools for the Planning Area. These schools are already existing within the districts that serve the area. Many of these schools are using temporary classrooms (relocatable buildings) to house a portion of their students. Therefore, the proposed plan may provide a beneficial impact to the provision of schools.

Parks

Maintenance of the existing number of dwelling units would require additional park acreage according to the current city park standards. At the City's ideal ratio of 2 acres of park land for every 400 persons, approximately 175 acres are needed to serve the estimated existing population of the Planning Area. Currently, there are approximately 676.9 acres of park land in the City which could serve a population of 135,380. The proposed plan would provide 1,554 acres of parks, approximately 652 acres short of the amount recommended for the target buildout population of 441,280. The additional need would be met with mitigation. The No Project Alternative would provide a higher ratio of parkland per resident than the proposed project.

Libraries

Existing library services in the Palmdale area are insufficient to serve the existing population, although residents can use library facilities located in Lancaster to supplement the Palmdale facility. The proposed plan would result in a higher demand for library services and higher space and service requirements than under the No Project Alternative. However, the proposed plan would encourage the development of additional facilities to serve the increased population. The proposed plan could result in fewer library service impacts if facilities are expanded as proposed because of existing deficiences.

Public Utilities

Because the population under the No Project Alternative is lower than the proposed plan, public utility requirements will be lower as well. Existing utility consumption is described in Section 3 of this document.

Water

The No Project Alternative (existing conditions) would require approximately 17.6 million gallons per day (mgd) of water. This is approximately 118 mgd less than the proposed plan (136 mgd). The No Project Alternative would result in fewer demands on water utilities.

Sewer

The existing land uses generate approximately 14 million gallons of sewage per day. This is 98.71 million gallons of sewage per day less than the proposed plan (112.71). Existing sewage treatment plants are operating close to capacity, but can adequately serve the existing population. The proposed plan would require expansion of treatment facilities.

Solid Waste Disposal

Solid waste generation for the existing land uses is approximately 480 tons per day while the proposed plan would generate 3,562 tons per day. The No Project Alternative would result in 3,082 fewer tons per day of solid waste than the proposed plan. The proposed plan would result in more impacts on solid waste facilities than the No Project Alternative.

Storm Drains

The amount of runoff depends primarily on lot coverage (impervious surfaces), ground percolation, and runoff sources (onsite use, rainfall, flood). The No Project Alternative would not increase runoff over existing conditions. This alternative features considerably larger areas of open space and permeable land than the proposed plan. However, the existing drainage facilities are inadequate to accommodate the runoff which often occurs. Although the development allowed under the proposed plan would result in higher runoff, requiring new drainage facilities, the plan contains policies which encourage a greater degree of flood protection. Therefore, the proposed plan would produce greater benefits relative to flood protection, but increased impacts on drainage and groundwater recharge.

Power, Natural Gas, Telephone, Cable Television

The need for power, natural gas, telephone, and cable television services for residential users would not increase with the No Project Alternative. The demand on all utilities would be greater with the proposed plan at buildout.

The No Project Alternative would require 459 million cubic feet of natural gas per month and 592.1 million kWh of power per year. This is approximately 6.5 times less natural gas and 11.5 times less electricity than the proposed plan.

Risk of Upset

The risk of upset due to an earthquake on the San Andreas Fault will depend on the intensity of development in areas near the fault zone. Presently, widely scattered rural homes predominate in the fault area. The No Project Alternative maintains the existing level of development in the fault zone. Under the No Project Alternative, no additional residents would be exposed to the higher groundshaking intensities that occur near the fault.

The potential for aircraft accidents depends on flight operations at the USAF Plant 42. Under the No Project Alternative, the proposed regional airport would not be constructed. Since the existing land uses around the USAF Plant 42 are less intensive than under the proposed plan, implementation of the No Project Alternative could result in a lower risk of upset due to aircraft accidents than under the proposed plan.

The presence of industrial uses carries a potential for hazardous materials contamination. The existing land use pattern has approximately 1,842 acres of industrial land. This is 46,153 acres less than under the proposed plan. Since the proposed plan would dedicate a larger area to industrial development, the potential for hazardous materials contamination is greater than under the No Project Alternative.

Noise

The existing development would not change under the No Project Alternative and no additional noise sources would be created. The development allowed under the proposed plan would increase both stationary and vehicular noise. Thus, the No Project Alternative would have less mobile source noise.

Light

Artificial light sources include street lighting, illuminated signs, and private night lighting. Glare may be generated by sources such as reflective facades, design components, vehicles, and water features. The amount of artificial light would not increase over existing conditions with the No Project Alternative. The potential light and glare impacts of residential, commercial, and industrial structures will be greater under the proposed plan since it allows more intensive development than the No Project Alternative.

Aesthetics

The existing land use configuration contains more open space and vacant areas and a lower development intensity than the proposed plan. This helps preserve the natural landforms and views of the mountains south of the Planning Area. The proposed plan allows more intensive development on the hillsides. However, in contrast, the proposed plan calls for the designation of scenic highways to preserve and enhance visual qualities and provides community design guidelines to create a unified city image. Overall, there would be less impact on aesthetic conditions under the No Project Alternative than under the proposed project.

Cultural Resources

With the no growth aspect of the No Project Alternative, archaeological, historical, and paleontological resources in the areas along the rift zone will be subject to less disturbance and destruction than under the proposed plan.

Summary

Overall, the No Project Alternative would generate substantially fewer environmental impacts than the proposed project. However, the No Project Alternative is not feasible because it does not respond to growth and migration, does not allow the City to remain economically viable in the future, and does not respond to development pressure and subsequent industrial and commercial development.

9.2 EXISTING GENERAL PLAN ALTERNATIVE

The Existing General Plan Alternative assumes that the City would continue to implement the existing General Plan until buildout. In the event that the proposed General Plan is not adopted, the existing General Plan will continue to be in effect; therefore, this alternative would be selected by default. The existing General Plan consists of 16 elements that were originally adopted in 1975. Since that time, the Land Use and Housing Elements have been amended.

The Existing General Plan Planning Area covers approximately 160 square miles of territory from 80th Street West to 120th Street East between Avenue L and the San Gabriel Mountains. Since the proposed Planning Area is larger than the existing Planning Area, current Los Angeles County designations have been applied to the additional acreage to provide consistency throughout the alternatives analysis. The land use designations of the Existing General Plan and the Los Angeles County territory land use designations are shown in Table 9-4.

The combination of city and county land use designations comprise the Existing General Plan alternative. This alternative will provide for a total of 48,679 acres of residential areas, 3,733 acres of commercial land, and 43,246 acres of industrial land. The alternative will accommodate the development of 134,146 dwelling units (87,703 single-family dwelling units and 46,443 multi-family units). In addition, the plan would allow the development of 47 million square feet of commercial uses and 593 million square feet of industrial uses.

TABLE 9-4

LAND USE DESIGNATIONS
EXISTING GENERAL PLAN ALTERNATIVE

Land Use	Acres	Typical Density (du/ac)	Typical Capacity	Percent
Urban 1.5 (L.A. Co.)	123	2/1	246	.1
Urban 1 (L.A. Co.)	591	3.3/1	1,950	.5
Non-urban 2 (L.A. Co.)	3,409	1/1	3,409	3.1
Non-urban 1 (L.A. Co.)	7,834	1/2	3,917	7.0
Open Space	12,856[a]	1/40	321	-
Non-urban Res. (1 du/10 ac)	4,828	1/10	483	4.3
Rural Res. (1 du/5 ac)	6,503	1/5	1,301	5.8
Rural Urban Res. (1 du/2.5 ac)	152	1/2.5	61	.1
Non-urban Res. (0.5 du/ac)	1,764	1/2	882	1.6
Non-urban Res. (1 du/ac)	104	1/1	104	.1
Suburban Res. (1-2 du/ac)	3,886	2/1	7,772	3.5
Urban Low Res. (0-3 du/ac)	1,167	3/1	3,501	1.0
Urban Res. (3.3 du/ac)	51	3.3/1	168	.1
Urban Res. (3.1-6.1 du/ac)	15,140	4.2/1	63,588	13.6
Urban Medium Res. (6.2-10 du/ac)	191	7/1	1,337	.2
Urban Med. High Res. (10.1-18 du/ac)	2,269	14/1	31,766	2.0
Urban High Res. (18.1-26 du/ac)	667	20/1	13,340	.6
Subtotal	48,679[a]		134,146	43.6
		FAR		
Commercial (L.A. Co.)	178	0.25	1.94 msf	.2
Neighborhood Commercial	53	0.25	.58 msf	.1
Community Commercial	1,433	0.25	15.61 msf	1.3
Regional Commercial	1,395	0.35	21.27 msf	1.3
Palmdale Boulevard Commercial	674	0.25	7.34 msf	.6
Subtotal	3,733		46.74 msf	3.5
Industrial (L.A. Co.)	274	0.5	5.97 msf	.2
Airports (L.A. Co.)[b]	22,888	0.5	149.55 msf	20.5
Light Industrial	3,496	0.5	76.14 msf	3.1

TABLE 9-4 (continued)

Land Use	Acres	Typical Density (du/ac)	Typical Capacity	Percent
Medium Industrial	593	0.5	12.92 msf	.5
Airport Commercial/Industrial	15,995	0.5	348.37 msf	14.3
Subtotal	43,246		592.95 msf	38.6
Flood Plain Management	1,304			1.2
Schools	359			.3
Parks	306			.3
Public Facilities	94			.1
Mineral Resource Extraction	950			.9
Open Space	12,856			11.5
Subtotal	15,869			14.3
Total	111,527			100.0

[a] Open Space is listed in this section only to acknowledge the dwelling units which may be developed there. The acreage assigned to open space is not identified as "Residential" acreage.

[b] The "Airports" designation assumes only 30 percent buildable area.

Source: City of Palmdale.

Impacts

The impacts discussed below relate to the implementation of the Existing General Plan Alternative. However, because of the complexities involved, the analysis does not consider the impacts related to implementation programs contained in the existing General Plan.

Geology

The Existing General Plan Alternative maintains the hillside areas as Non-urban designation (1 du/ac) which would allow the development of residential uses. This is intended to preserve the hillside areas and limit the geologic risks to residents and users of the area. The proposed plan's designation (1 du/ac) for this area is more intensive than the existing land use designations. Thus, compared to the proposed plan, the Existing General Plan Alternative would result in fewer impacts from geologic hazards. At buildout, the existing plan would result in less grading and slope disturbance due to its low density development on hillsides.

Hazards related to soil expansion, erosion, soil infiltration, subsidence, liquefaction, and hydrocompaction would continue to be present in scattered portions of the Planning Area under the Existing General Plan Alternative. The intensity of development allowed in the different areas with these known geologic hazards determines the risks for injury and property damage. A lot-by-lot evaluation to compare impacts under this alternative with the proposed plan is not made; however, because the allowable development under the existing General Plan is less, fewer residents and users will be exposed to geologic hazards in the area.

The existing plan designates some areas of the San Andreas Fault Zone as open space. In these areas the risks associated with groundshaking, fissures and other consequences of an earthquake on the fault are eliminated. Development along the fault zone is generally of lower intensity under the existing plan, which indicates a lower risk due to earthquake hazards in the area, than that associated with the proposed plan. Risk of seismic hazards would be significant under both plans.

Air Quality

At buildout of the Existing General Plan Alternative, air quality in the Planning Area would be impacted by mobile and stationary source emissions as estimated in Tables 9-5 and 9-6. Mobil source emissions would be approximately 9.3 to 16.9 percent lower than the emissions under the proposed plan for TOC, carbon monoxide, and nitrogen oxides. Stationary emissions would be from 2.8 to 9.5 times lower under the existing general plan. Thus, air quality degradation would be less with the existing plan than with the proposed plan.

TABLE 9-5

MOBILE SOURCE POLLUTANT EMISSIONS AT BUILDOUT OF EXISTING GENERAL PLAN ALTERNATIVE (lbs/day)

Land Use	Trip Rate	Total Vehicle Trips	Pollutants		
			TOC	CO	NOx
Single-Family	10.0/unit	772,960	6,872	68,995	14,081
Multiple-Family	6/unit	319,816	2,844	28,548	5,826
Airfield/Related Uses	5.0/acre	213,160	2,320	24,242	4,933
Regional Commercial	481.3/acre	381,190	3,281	32,753	6,688
Community Commercial	616.0/acre	1,512,896	13,024	129,995	26,544
Light Industry	52.4/acre	184,344	1,845	18,994	3,869
Heavy Industry	40.0/acre	25,440	255	2,621	534
Park	5.0/acre	240	2	21	4
Public Facilities	15.0/acre	4,470	39	389	79
Total		3,403,852	30,389	305,606	62,364

Source: Michael Brandman Associates 1992.

TABLE 9-6

STATIONARY SOURCE EMISSIONS AT BUILDOUT OF EXISTING GENERAL PLAN ALTERNATIVE (lbs/day)

	Pollutants				
Land Use	CO	NOx	SOx	Particulates	HC
Single-Family	300.50	1,427.37	77.27	27.04	51.95
Multiple-Family	158.42	789.06	53.28	18.28	22.89
Airfield	131.21	704.69	61.67	20.77	12.67
Regional Commercial	5.41	28.92	2.50	0.84	0.54
Community Commercial	89.48	478.49	41.33	13.93	8.90
Light Industry	103.17	554.12	48.49	16.33	9.96
Heavy Industry	18.65	100.18	8.77	2.95	1.80
Public Facilities	11.92	64.04	5.60	1.89	1.15
Total	1,638	8,294	598	204	220

Source: Michael Brandman Associates 1990.

Water Resources

If the current groundwater-to-imported water ratio for water usage remains constant, groundwater resources in the area will be under greater demand at buildout of the proposal plan than the existing plan. Water consumption needs of the Planning Area at buildout are discussed in the Section 4.2.11, Water Services.

The Existing General Plan Alternative designates the southern portion of Little Rock Wash as a floodplain management zone although it does not specifically designate the water courses of the Anaverde and Amargosa

Creeks for floodplain management. The designation for Little Rock Wash limits development to low density land uses and ensures implementation of flood protective measures.

In general, higher lot coverage is associated with commercial and industrial land uses than with residential uses. The higher lot coverage increases the amount of impervious surfaces which could increase runoff potential, and, in turn, increase flooding potential. The existing General Plan designates 46,979 acres for commercial and industrial uses in the Planning Area which could divert water drainage courses upon development. The proposed plan designates approximately 51,976 acres for commercial and industrial areas, approximately 4,997 acres more than the Existing General Plan Alternative. Thus, the proposed plan would have more impact on natural drainage courses and a greater runoff potential than the existing plan.

Biology

The existing land use plan allows lower development densities in areas that are currently vacant in comparison to the proposed plan. Thus, future development under the existing plan would result in less disruption of biological communities. Also, this alternative designates portions of Ritter Ridge as open space and Little Rock Wash as a floodplain management zone. Such designations will preserve these sensitive ecological areas. In addition, the existing plan designates 12,856 acres of open space, while the existing plan designates only 7,904 acres of open space. Therefore, impacts on biological resources would be less under the alternative than under the proposed plan.

The West Alpine Butte Wildlife Sanctuary is designated as open space in the proposed plan but is designated as Airport Commercial Industrial (ACI) in the existing plan. Buildout of the existing plan would destroy this biological resource if the area was developed to its designated use.

Natural Resources

The Existing General Plan Alternative would preserve approximately 12,856 acres as open space; the proposed plan would designate only 7,904 acres for open space purposes. Therefore, implementation of the Existing

General Plan Alternative would preserve more of the natural landscape than would be preserved by implementation of the proposed plan.

Under this alternative, the existing quarry activities along Little Rock Wash, an area determined to contain regionally significant sand and gravel resources, could continue in those areas which currently have approved Reclamation Plans and designated for Mineral Resource Extraction (950 acres). The Proposed Plan would designate a larger area (5,738 acres) for Mineral Resource Extraction. This designation would also preserve the existing quarry operations and would allow extraction activities to expand into the area designated for this use. Because mineral resource extraction would be better protected under the proposed plan, the implementation of the Existing General Plan Alternative would likely result in more detrimental impacts to access to this resource.

Land Use

The Existing General Plan Alternative includes 48,679 acres (44 percent) of residential land, 3,733 acres (3 percent) of commercial land, and 43,246 acres (39 percent) of industrial land. The remaining 15,869 acres (14 percent) are designated for open spaces, public facilities, and flood plain management.

The Existing General Plan Alternative has a maximum residential capacity of 175,049 dwelling units. The typical buildout capacity, however, is only 134,146 dwelling units. At typical capacity, there would be 46.74 million square feet (msf) of commercial uses and 592.95 msf of industrial uses under this alternative.

Under the General Plan Alternative, the USAF Plant 42 and proposed Palmdale Regional Airport are designated as Airport Commercial/Industrial, as are areas around these facilities. Palmdale Boulevard is designated Palmdale Boulevard Commercial and areas adjacent to the freeway are Light Industrial. Little Rock Creek is a Flood Plain Management Zone and the San Andreas Rift Zone and Ritter Ridge are designated open space.

Comparison of the existing and proposed plans shows that dwelling unit capacity is 4 percent greater under the proposed plan (5,059 units) than under the existing plan. Residential land area would be 1.0 percent less with the existing plan (529 acres). Commercial land would be 6 percent less under this alternative (248 acres), and commercial square footage would be 11.3 million square feet less. Industrial land would be 10 percent less (4,760

acres) under the existing plan, and would only contain 593 million square feet, which is 14 million square feet less than under the proposed plan.

Existing land uses sometimes do not conform with the existing designations. The proposed land use plan was established with respect to existing land uses and, thus, reflects current uses for developed areas. This reduces nonconforming uses in the City and the potential for incompatible developments.

Population

The Existing General Plan Alternative would accommodate approximately 134,146 dwelling units to house 425,243 persons at buildout. The existing land use plan's population capacity is 16,037 persons (4 percent) less than the proposed land use plan. If buildout of this alternative were to occur, a higher allowable density of the central area would result in concentration of the population within the City's urban core rather than in a dispersed pattern.

Development under the Existing General Plan Alternative would generate approximately 567,840 jobs, resulting in a jobs/housing balance of 4.23 jobs per housing unit. This would indicate a slightly less jobs-rich environment than would result from the proposed plan (4.3 jobs/housing unit). Because this alternative has more industrial land uses than the proposed plan, employment in the Planning Area would tend toward industrial jobs and a technical workforce.

Housing

The Existing General Plan Alternative would allow development of approximately 134,146 dwelling units at buildout. Comparison with the proposed land use plan for the same area shows that 5,059 more dwelling units can be accommodated by the proposed plan over the existing plan.

The housing stock composition at buildout of the Existing General Plan Alternative will be made up of 87,703 single-family units, or 65 percent, and 46,443 multi-family units or 35 percent. This alternative provides for a larger percentage of multi-family housing than the proposed plan which has a ratio of 71 percent single-family

stock to 29 percent multi-family stock at buildout. However, the proposed plan includes additional housing policies and programs to serve special housing needs. There would be fewer housing impacts under the proposed plan.

Transportation and Circulation

At typical buildout, there would be 3,403,852 vehicle trips generated under the Existing General Plan Alternatives. This would result in fewer vehicle trips than generated under the proposed plan (3,528,026 trips). Under the Existing General Plan Alternative, there would be slightly less traffic and circulation impacts than the proposed plan, although this does not consider the effects of traffic management programs that may be implemented to mitigate the traffic impacts of development under the proposed land use plan.

Public Services

The lower development capacity of the Existing General Plan Alternative would generally create a lower demand for public services than the proposed plan. Other issues related to the efficient and timely provision of services would be similar with implementation of either the existing or the proposed General Plan.

Fire Protection

The proposed land use plan includes more development acreage than the existing plan, therefore, implementation of the proposed plan would require more fire protection services than would implementation of this alternative. Because of the higher industrial densities under the proposed plan, the potential for chemical fire hazards would be greater at buildout compared to this alternative. Residential and commercial fire protection requirements would be similar for both plans.

Police Protection

The higher development capacity of the proposed plan would generally translate to a greater demand for police protection services as compared to this alternative. While the existing plan may have fewer residential units, it

has more multiple-family residential areas (high density uses), particularly in the City's central core, than the proposed plan. High density uses may require more police services than lower density developments. However, overall, the proposed plan would require more police services than the Existing General Plan Alternatives.

Schools

The development capacity of 134,146 dwelling units under the existing land use plan would generate a student population of 73,779 students. Table 9-7 shows estimated student generation under the existing land use plan. This is 4,909 fewer students than under the proposed plan (78,688 students), meaning the existing plan would require fewer schools to serve the Planning Area at buildout.

TABLE 9-7

STUDENT GENERATION -- EXISTING GENERAL PLAN ALTERNATIVE

	Single-Family	Multi-family	Total
Factors by Grade			
Elementary[a]	0.34	0.14	
Intermediate[a]	0.10	0.04	
Total	0.44	0.18	
High School[b]	0.20	0.20	
Student Generation			
Plan Capacity (units)	87,703	46,443	134,146
Elementary Students	38,589	8,360	46,949
High School Students	17,541	9,289	26,830
Total Students	56,130	17,649	73,779

[a] Palmdale School District generation factors
[b] Antelope Valley High School District generation factors
Source: Michael Brandman Associates 1992.

Parks

Based on the City's Parkland Ordinance, 2 acres of parklands are needed for every 400 persons; therefore, approximately 2,126 acres of parkland acreage will be needed to serve the buildout population of the Existing General Plan Alternative. This alternative designates only 306 acres of active parkland. There are an additional 12,000 acres designated as open space under this alternative; parkland could be developed from this source of land. However, in terms of designated parkland, this alternative would result in a deficit of 1,820 acres of active parkland. Similarly, the proposed project does not designate sufficient parkland to meet the 2 acre per 400 population requirement. The proposed plan designates 1,554 acres of parks but would require, based on the parkland criteria, 2,206 acres of active parks. Therefore, implementation of both plans would result in the development of insufficient park acreage. However, the proposed plan, with implementation of mitigation measures at buildout, would provide a greater percentage of the required park acreage than this alternative.

Libraries

Table 9-8 estimates library needs at buildout of the Existing General Plan Alternative. Approximately 340,194 square feet of library space would be needed, which is 3.7 percent less than the proposed plan, which requires 353,024 square feet of library space. All other requirements for library space and service would be approximately 3.7 percent less for the existing plan compared to the proposed plan.

Branch libraries would be needed at buildout of either plan. They should be located within accessible distance to the majority of the population, near the City's urban core.

TABLE 9-8

LIBRARY SPACE AND SERVICE REQUIREMENTS
EXISTING GENERAL PLAN ALTERNATIVE

	Existing Plan
Book Volumes	1,063,105
Periodicals	3,615
Staff	213
Reader Seats	2,126
Parking Space (without meeting room staff parking)	1,063
Workroom Space (square feet)	26,625
Storage Space (square feet)	34,019
Library Size (square feet)	340,194

Source: Michael Brandman Associates 1992.

Public Utilities

The Existing General Plan Alternative has a lower public utility demand compared to the proposed plan, due to the reduced acreage dedicated to commercial and industrial uses.

Water

The existing plan is estimated to have a demand for approximately 130.51 million gallons per day of water at buildout. This is 5.5 million gallons per day (4.2 percent) less than the proposed plan (136 mgd). Table 9-9 shows the projected demand by land use.

TABLE 9-9

PROJECTED WATER CONSUMPTION
EXISTING GENERAL PLAN ALTERNATIVE

Land Use	Consumption Factor[a]	Water Consumption
Residential	400 gpd/unit	53.66 mgd
Commercial	120 gpd/ksf	5.60 mgd
Industrial	120 gpd/ksf	71.20 mgd
Public Facilities	120 gpd/ksf	0.05 mgd
Total		130.51 mgd

[a] Consumption factor based on City of Los Angeles wastewater program sewage generation rates, increased by a factor of 20 percent for water consumption.

Source: Michael Brandman Associates 1992.

Sewer

Buildout of the existing plan would result in the generation of approximately 108.4 million gallons of sewage per day. This is 4.45 million gallons of sewage per day (4.1 percent) less than the proposed plan (112.85 mgd). Table 9-10 shows the projected sewage generation by land use.

TABLE 9-10

PROJECTED DAILY SEWAGE GENERATION
EXISTING GENERAL PLAN ALTERNATIVE

Land Use	Generation Factor	Plan Capacity	Sewage Generation
Residential	330 gpd/du	134,146 du	44.3 mgd
Commercial	100 gpd/1000 gsf	46.74 msf	4.7 mgd
Industrial	100 gpd/1000 gsf	592.95 msf	59.3 mgd
Public Facilities	100 gpd/1000 gsf	.41 msf	0.1 mgd
Total			108.4 mgd

[a] City of Los Angeles Waste Water Program 1988.

Source: Michael Brandman Associates 1992.

Solid Waste Disposal

Solid waste generation at buildout of the existing plan would be approximately 5,015 tons per day while the proposed plan would generate 3,562 tons per day. This alternative would result in 41 percent more solid waste than the proposed plan. The bulk of the tonnage for the existing plan would come from expected industrial waste. Table 9-11 shows the projected solid waste by land use.

TABLE 9-11

PROJECTED SOLID WASTE GENERATION
EXISTING GENERAL PLAN ALTERNATIVE

Land Use	Generation Factor[a]	Plan Capacity	Solid Waste Generation
Single Family	15 lbs/du/da	87,703 du	1.32 million lbs/day
Multi-family	5.5 lbs/du/day	46,443 du	2.55 million lbs/day
Commercial	5 lbs/ksf/day	46.74 msf	0.23 million lbs/day
Industrial	10 lbs/ksf/day	592.95 msf	5.93 million lbs/day
Total			10.03 million lbs/day or 5,015 tons per day

[a] City of Los Angeles EIR Guidelines 1981.

Source: Michael Brandman Associates 1990.

Expansion of the Antelope Valley Landfill has recently been approved by the County; this expanded facility will serve the Planning Area after the current capacity of the landfill is exhausted. Recycling programs as required by state law would decrease the solid waste disposal needs of the Planning Area for both the existing and proposed plans and will extend the life of the landfill.

Storm Drainage

Because this alternative provides for a slightly reduced development scenario, the storm drainage system necessary to accommodate the Planning Area runoff would likely be slightly smaller in size compared to the system that would be needed with implementation of the proposed plan. This alternative would allow less development in hillside areas and around Little Rock Wash. The reduced acreage provided for commercial and industrial development in this alternative would act to reduce impervious areas, allowing more absorption of precipitation. However, quantitative comparisons between this alternative and the proposed plan is difficult in the absence of

specific lot coverage information, ground infiltration capacities, and the other factors that determine storm water runoff.

Power, Natural Gas, Telephone, Cable Television

The need for power, natural gas, telephone, and cable television services for residential users would be somewhat lower with implementation of the existing plan. Specific commercial and industrial demands cannot be accurately estimated unless business type, equipment, and size are known. Consumption of natural gas and power would be less with development of the existing plan than development of the proposed plan at buildout because of the amount of commercial and industrial development would be less. Table 9-12 shows power and natural gas demand factors and Table 9-13 estimates demand at buildout based on these generalized factors for each land use.

TABLE 9-12

POWER AND NATURAL GAS DEMAND FACTORS

Land Use	Gas Consumption[a]	Power Consumption[b]
Residential		6,081 kWh/du/yr
Single-Family	6,665 cf/du/mo	
Multi-Family	4,012 cf/du/mo	
Commercial	2.5 cu ft/sq ft/mo	8.8 kWh/sq ft/yr
Industrial	3.3 cu ft/sq ft/mo	8.8 kWh/sq ft/yr

a Los Angeles EIR Guidelines.
b Common Forecasting Methodology VI, Demand Forecast, SCE, 1985.

TABLE 9-13

PROJECTED POWER AND NATURAL GAS CONSUMPTION
EXISTING GENERAL PLAN ALTERNATIVE

Land Use	Gas Consumption	Power Consumption
Residential	770.8 million cu ft/mo	815.7 million kWh/yr
Commercial[a]	116.9 million cu ft/mo	411.0 million kWh/yr
Industrial	1,956.7 million cu ft/mo	5,218.4 million kWh/yr
Total	2,844 million cu ft/mo	6,445.1 million kWh/yr

[a] Includes total of commercial and public facility square footage.

Source: Michael Brandman Associates 1992.

Development of the Existing General Plan Alternative would result in the consumption of 2,844 million cubic feet of natural gas per month and 6,445 million kWh of power per year. Development allowed by the proposed plan would consume approximately 2,984 million cubic feet per month of natural gas and 6,783.9 million kWh of electricity per year. The existing plan would consume approximately 4.7 percent less natural gas and 5.3 percent less electricity than the proposed plan.

Risk of Upset

The risk of upset due to earthquake on the San Andreas Fault would depend on the intensity of development in areas near the fault zone. The Existing General Plan Alternative allows less intense development and, therefore, fewer residents in the fault zone compared to the proposed plan. Thus, fewer residents would be exposed to the higher groundshaking intensities that would occur near the fault; however, impacts under either alternative are considered significant.

The potential for aircraft accidents depends on flight operations at the USAF Plant 42 and the proposed regional airport. The existing land use designations around these facilities are less intensive than those designated under the proposed plan. Thus, implementation of the existing plan would result in less risk of upset from aircraft accidents than implementation of the proposed plan.

The presence of industrial uses carries a potential for risks associated with hazardous materials. The Existing General Plan Alternative would allow approximately 593 million square feet of industrial land. This is 14 million square feet less than the proposed plan, indicating a slightly reduced potential for hazardous materials use and hazardous materials and waste contamination with development of the existing plan.

Noise

Development of this alternative would likely result in a slight decrease in traffic and industrial uses at buildout, as compared to the proposed project. This reduction of development may result in a reduction of noise levels. As with the proposed project, noise impacts would be confined to areas adjacent to major streets, freeways, railways, industrial areas, and USAF Plant 42 and the proposed regional airport. Therefore, implementation of the existing plan may result in fewer noise impacts than implementation of the proposed project.

Light

The specific impacts from light and glare emanating from both natural and artificial sources are difficult to evaluate in the context of a general plan because they are typically project-specific. However, the magnitude of impacts from the implementation of this alternative is expected to be marginally less than implementation of the proposed project because the typical sources of light and glare, such as street lighting, building signage, and reflective building materials, will be slightly reduced under the Existing General Plan Alternative.

Aesthetics

The Existing General Plan Alternative designates more open space areas and provides for lower development intensity on outlying areas in comparison to the proposed plan. Therefore, implementation of this alternative

would preserve the natural landforms and views of the mountains south of the Planning Area more effectively than the proposed plan. While the proposed plan allows more intensive development on the hillsides, it does call for the designation of scenic highways to preserve their visual qualities and provides guidelines for community design to create a unified city image.

Cultural Resources

Cultural resources in the Planning Area are nonrenewable, site-specific resources which could be adversely impacted by careless development. With lower density development allowed along the rift zone designation under the existing plan, archaeological and paleontological resources in these areas may be subject to less disturbance and destruction compared to impacts which may occur with development of the proposed plan. Damage from off-road vehicles account for the destruction of some cultural resources in the Planning Area and would continue to do so if the activity continues in areas where cultural resources are present but have not been discovered. Efforts for the preservation of cultural resources are contained in the proposed plan to reduce impacts on cultural resources. Impacts could be greater with the proposed plan since the development of more acreage would be allowed.

Summary

This alternative, if implemented, would result in marginally fewer impacts to the environment than the proposed project. However, because the existing plan does not respond to the current needs of the community, continued implementation of this plan is not desirable. Changing economic and social needs of the community demand updating the existing goals, policies, and implementation measures presented in that document.

9.3 LOW DENSITY LAND USE PLAN ALTERNATIVE

The Low Density Land Use Plan alternative was formulated in response to a community attitude survey and interviews with residents on their concepts and goals for Palmdale. Residents expressed a desire to retain the rural character of Palmdale and provide open spaces around the Planning Area. This alternative allows lower development density overall in order to retain the small town atmosphere and to keep the Planning Area distinct from neighboring communities. It limits development on hillside areas and along Little Rock Wash and it centers development in the City of Palmdale within its existing urban core. Also, it expands commercial areas in the City to increase city revenues generated by sales tax.

Table 9-14 provides a breakdown of land use designations for this alternative and Exhibit 67 shows the land use plan. The alternative includes 30,939 acres (33 percent of the Planning Area) of residential land with a maximum capacity of 86,646 dwelling units. It also proposes 45,653 acres for open space areas, 3,794 acres of commercial land, and 30,249 acres of industrial, business park, and airfield land. Approximately 282 million square feet of industrial and airport related space and 68 million square feet of commercial and public facility space could be expected from implementation of the plan.

9.3.1 IMPACTS

The impacts associated with the Low Density Land Use Plan Alternative are generally reduced compared to the proposed plan. This reduction can be attributed to a lower residential land area and dwelling unit capacity, greater commercial land area, less industrial land, and the designation of 45,653 acres of open space. As shown in Table 9-14, the typical development densities for residential land uses are similar to those identified in the proposed plan. However, the differences in acreage and some densities in residential development intensity between this alternative and the proposed plan will result in significantly fewer dwelling units. Development of industrial, commercial and public facilities uses under the Low Density Land Use Plan Alternative are assumed to occur in densities similar to those anticipated under the proposed plan. For comparison purposes, the same implementation programs recommended in the proposed general plan are assumed to apply to this alternative.

TABLE 9-14

LAND USE DESIGNATIONS
LOW DENSITY LAND USE PLAN ALTERNATIVE

Land Use	Acres	Typical Density (du/ac)	Typical Capacity	Percent
Open Space	45,653[a]	1/40	1,141	
Equestrian Residential	11,824	1/2.5	4,730	10.6
Low Density Residential	3,564	1/2	7,128	3.2
Single Family Residential	14,582	4.2/1	61,244	13.1
Multi-family Residential	969	12.8/1	12,403	.9
Subtotal	30,939[a]		86,646	27.8
		FAR		
Office Commercial	1,549	0.5	33.7 msf	1.4
Neighborhood Commercial	252	0.25	2.7 msf	.2
Community Commercial	665	0.25	7.2 msf	.6
Regional Commercial	1,328	0.35	20.2 msf	1.2
Subtotal	3,794		63.8 msf	3.4
Industrial	3,549	0.5	77.3 msf	3.2
Airfield[b]	24,700	0.5	161.4 msf	22.1
Business Park	2,000	0.5	43.6 msf	1.8
Subtotal	30,249		282.3 msf	27.1
Public Facilities	892			.8
Open Space	45,653			40.9
Subtotal	46,545	41.7		
Total	111,527			100.0

[a] Open Space is listed in this section only to acknowledge the dwelling units which may be developed there. The acreage assigned to open space is not identified as "Residential" acreage.

[b] The "Airfield" designation assumes only 30 percent buildable area.

Source: City of Palmdale 1992.

Geology

The Low Density Land Use Plan alternative designates an open space area around the urban core of the Planning Area. Within this open space buffer, the development of one dwelling unit per 40 gross acres would be allowed as the maximum density of development. With the open space land use in place, the Low Density Land Use Plan Alternative would allow less development on the hillsides and within Little Rock Wash than would be allowed under the proposed plan. In general, the hillside areas and Little Rock Wash would be preserved in an undisturbed condition. Because of the reduction of industrially designated lands, development around USAF Plant 42 and the proposed regional airport would also be reduced when compared to the proposed plan. These reductions in development would result in less grading and disturbance to the ground surface, and consequently, fewer impacts on the area's natural landform and geology.

Geologic hazards, such as high expansive soils, erosion, soil infiltration, subsidence, hydrocompaction, and liquefaction potential, will continue to persist in areas where those conditions are present. To the extent that the Low Density Land Use Plan alternative proposes lower development densities on areas subject to these hazards, impacts would be less extensive compared to the potential impacts which could occur under the proposed plan.

For the most part, the areas within the San Andreas Rift zone would be designated as Open Space and Rural Residential under the Low Density Land Use Plan scenario. Development of these less intensive land uses would decrease the number of persons exposed to the hazards associated with seismic activity along the fault.

In consideration of the analysis provided above, implementation of the Low Density Land Use Plan alternative would result in fewer geological impacts than implementation of the proposed plan.

Air

The Low Density Land Use Plan alternative provides for less development overall than the proposed plan and would, therefore, generate fewer potential sources of air pollution emissions. The reduction in the intensity of development will translate into a reduction of daily vehicle trips when compared to the proposed plan.

Consequently, mobile source pollutant emissions will be reduced (for three criteria pollutants) from between 12 to 23 percent. Similarly, because of the reduced industrial land use acreage proposed by this alternative, stationary source emissions would be expected to be an average of 75 percent lower when compared to the emissions which would result with implementation of the proposed plan.

Water Resources

Implementation of the Low Density Land Use Plan Alternative would result in a reduction of storm water runoff when compared to the proposed plan. This reduction would occur because development intensity, and the resulting creation of impervious surfaces, would be less under this alternative. The commercial and industrial development proposed by this alternative covers approximately 34,038 acres, whereas the proposed plan would dedicate 51,976 acres for these uses. Because lot coverage is greater for commercial and industrial development than for other uses, the Low Density Land Use Alternative, allowing fewer acres developed under these categories, would be expected to allow more groundwater percolation and would divert fewer drainage courses. Additionally, the preservation of the surrounding hillside areas by the Low Density Land Use Plan would reduce runoff potential in these areas. Therefore, development under this alternative would result in fewer impacts relating to drainage facilities and potential for flooding.

Biology

The reduced development acreage of the Low Density Land Use Plan alternative would generally result in less disruption of biological communities throughout the Planning Area as compared to the development allowed under the proposed plan. Under this alternative, large areas around the airport, on the hillside areas and within and around Little Rock Wash would be designated as open space. This would allow minimal development within these natural areas, preserving native vegetation and wildlife in the Planning Area.

Identified sensitive ecological areas such as Ritter Ridge, Portal Ridge, Little Rock Wash, and Alpine Butte would all be designated as open space under the Low Density Land Use Plan alternative, preserving the biological integrity of these unique area.

Therefore, this alternative would result in fewer biological impacts than the proposed plan.

Natural Resources

The extensive use of the open space designation in the Low Density Land Use Plan alternative would help preserve the existing undeveloped territories throughout the Planning Area. This alternative would set aside 45,653 acres of open space to ensure the preservation on natural resources in Palmdale. An additional 892 acres of public facilities, which includes parks, is proposed by this alternative. The proposed plan designates 7,904 acres of open space areas and 1,554 acres of parks, constituting approximately 8.5 percent of the Planning Area.

Little Rock Wash, which was identified as an aggregate resource area, has been designated in the Low Density Land Use Plan Alternative as open space. The open space designation would preclude extraction of sand and gravel resources and ancillary quarry activities. Therefore, the proposed plan, which would designate this area as Mineral Resource Extraction, would be more beneficial in terms of continued use of aggregate resources than the Low Density Land Use Plan Alternative.

Land Use

As with the proposed plan, the Low Density Land Use Plan Alternative assigns to the currently developed areas designations which reflect existing uses. This would act to minimize nonconforming uses and incompatible developments in the event that this alternative is implemented.

The breakdown of land use designations for this alternative as presented in Table 9-14 shows that 33 percent of the area is designated for residential use, six percent is designated for commercial uses, 30 percent is designated as industrial, 20 percent is designated as open space and one percent is designated for public facilities. The proposed plan provides for more acreage dedicated to development, and has the potential for more land use impacts.

The predominance of industrial areas in both plans is explained by the extent of the proposed airport, established aerospace industries and anticipated support industries.

Population

Based on 1991 Department of Finance estimates of 3.17 persons per household, buildout of the Low Density Land Use Plan Alternative would result in a resident population of 274,668 persons. This is 38 percent less than the proposed plan and 35 percent less than the existing plan. Employment capacity would be lower with implementation of the Low Density Land Use Plan Alternative than with the proposed plan due to the relative acreage proposed for industrial and commercial development.

Employee estimates for the Low Density Land Use Plan Alternative were derived using the following generation factors: 30 employees per commercial acre; 145 employees per acre of office use; 29 employees per business park area; 17 employees per industrial acre; and one employee per acre of airport. These factors indicate that buildout of the Low Density Land Use Plan Alternative would result in 434,988 jobs in the Planning Area. The jobs/housing ratio for this alternative is therefore 5.02 jobs per dwelling unit. Because of the emphasis on commercial and industrial development in jobs/housing balance at buildout, the area would be more jobs-rich under this alternative than under the proposed plan, which would have a jobs/housing balance of 4.3 jobs per housing unit.

Housing

This alternative is expected to accommodate approximately 86,646 dwelling units at buildout which is 52,559 units (38 percent) less than the proposed plan and 47,500 units (35 percent) less than the existing plan. The Low Density Land Use Plan Alternative proposes the development of 12,403 multi-family dwelling units (969 acres). This allocation is significantly less than the 37,158 multi-family units anticipated under the proposed plan. The low proportion of multi-family housing in the Low Density Land Use Plan Alternative is in response to the current housing demand in the valley. Housing costs in the Palmdale-Lancaster area are lower than those in neighboring areas, allowing greater opportunity for home ownership. The high vacancy rate of rental housing demonstrates a lower existing demand for high density development project. However, as the area develops, the demand for multi-family housing is expected to increase. Because the Low Density Land Use Plan Alternative would provide fewer housing opportunities and a more adverse jobs/housing ratio, it would have greater impacts on housing than the proposed plan.

Transportation and Circulation

Although road and intersection analysis has not been performed on this alternative, implementation of the Low Density Land Use Plan Alternative is expected to generate less traffic than would implementation of the proposed plan. Impacts would be similar, but reduced in magnitude, to those attributed to development of the proposed project. Road construction and improvements would be needed in both alternatives to serve future developments.

Public Services

The reduction in development acreage under the Low Density Land Use Plan Alternative, as compared to the proposed plan, would generate a relative reduction in demand for public services throughout the Planning Area. Impacts to specific public services are discussed below.

Fire Protection

Implementation of the Low Density Land Use Plan Alternative would result in less demand for fire protection services than would the proposed plan, due to the reduction in overall development. The demand for additional fire stations would be concentrated in the urban core to serve the bulk of the developed area. However, the extensive open space areas could result in a greater risk of wildlands and brush fires.

Police Protection

If the City were to develop under this alternative, the need for additional police protection would increase. Based on the existing police to population ratio of approximately 1 police officer per 1,000 population, approximately 274 police officers would be needed at buildout of the Low Density Land Use Plan Alternative. However, this amount of police protection is significantly less than would be needed for implementation of the proposed plan which would require 441 officers to achieve the 1 officer per 1,000 population ratio.

Schools

The buildout of the Low Density Land Use Plan alternative would result in generation of approximately 34,700 elementary school students and 17,330 high school students (Table 9-15). These figures are based on the existing generation factors used by Palmdale School District and the Antelope Valley Unified High School District. Compared to the proposed plan, this alternative would generate fewer students and a correspondingly reduced demand for school services. Consequently, fewer elementary and high schools would be needed at buildout with this alternative than with the proposed plan.

TABLE 9-15

STUDENT GENERATION
LOW DENSITY LAND USE PLAN ALTERNATIVE

	Single-Family	Multi-Family	Total
Factors by Grade			
Elementary[a]	0.34	0.14	
Intermediate[a]	0.10	0.04	
Total	0.44	0.18	
High School[b]	0.20	0.20	
Student Generation			
Plan Capacity (units)	74,243	12,403	86,646
Elementary Students	32,667	2,233	34,900
High School Students	14,849	2,481	17,330
Total Students	47,516	4,714	52,230

[a] Palmdale School District generation factors.

[b] Antelope Valley Union High School District generation factors.

Parks and Recreation

The demand for parks and recreational amenities would be less with implementation of the Low Density Land Use Plan alternative than with implementation of the proposed plan because of the reduction in population. Based on the City standard of 2 acres of park per 400 residents, 1,373 acres of active park land would be required at buildout of this alternative. The park acreage could be generated in both the open space and public facilities land use designations. The proposed plan would require 2,206 acres; only 1,554 acres are presently proposed.

Libraries

The demands for library service would be proportionately less under the Low Density Land Use Plan Alternative than the proposed plan, based on the buildout populations. Approximately 219,734 square feet of library space would be needed at buildout, proportionately less than would be needed under the proposed plan. Table 9-16 lists the estimated requirements of library space and services relative to the Low Density Land Use Plan Alternative.

TABLE 9-16

LIBRARY SPACE AND SERVICE REQUIREMENTS
LOW DENSITY LAND USE PLAN ALTERNATIVE

Book Volumes	686,670
Periodicals	2,335
Staff	137
Reader Seats	1,373
Parking Space (without meeting room staff parking)	687
Workroom Space (square feet)	17,125
Storage Space (square feet)	21,973
Library Size (square feet)	219,734

Source: Michael Brandman Associates 1992.

Public Utilities

The reduction in development acreage under the Low Density Land Use Plan Alternative, as compared to the proposed plan, would generate a relative reduction in demand for public utilities throughout the Planning Area. Impacts to specific public utilities are discussed below.

Water

The estimated water consumption at buildout for the Low Density Land Use Plan Alternative can be estimated using the same factors used to estimate the impacts of the proposed plan (see Section 4.11). Table 9-17 shows that approximately 76.2 million gallons of water per day would be needed to meet demands generated by buildout of this alternative. This is 59.7 million gallons per day, or 44 percent, less than the amount required by development of the proposed plan.

TABLE 9-17

PROJECTED WATER CONSUMPTION
LOW DENSITY LAND USE PLAN ALTERNATIVE

Land Use	Consumption Factor[a]	Water Consumption
Residential	400 gpd/unit	34.7 mgd
Commercial	120 gpd/ksf	7.7 mgd
Industrial	120 gpd/ksf	33.8 mgd
Total		76.2 mgd

[a] Consumption factor based on City of Los Angeles waste water program sewage generation rates, increased by a factor of 20 percent for water consumption.

Source: Michael Brandman Associates 1992

Sewer

Sewer generation factors for the various land uses were used to estimate impact to sewage treatment facilities and infrastructure. Using the factors shown in Table 9-18, the Low Density Land Use Plan Alternative will generate approximately 63.2 million gallons per day of sewage effluent. This amount is 49.7 million gallons per day, or 44 percent, less than would be generated with implementation of the proposed plan. However, expansion of the service district and additional capacity for treatment plants would be needed to serve the Planning Area under either scenario.

TABLE 9-18

PROJECTED SEWAGE GENERATION
LOW DENSITY LAND USE PLAN ALTERNATIVE

Land Use	Generation Factor	Plan Capacity	Sewage Generation
Residential	330 gpd/du	86,646 du	28.6 mgd
Commercial	100 gpd/1000 gsf	63.8 msf	6.4 mgd
Industrial	100 gpd/1000 gsf	282.3 msf	28.2 mgd
Total			63.2 mgd

[a] City of Los Angeles Waste Water Program 1988.

Source: Michael Brandman Associates 1992.

Solid Waste Disposal

Solid waste generation at buildout of the Low Density Land Use Plan Alternative would be approximately 2,465 tons of solid waste per day (Table 9-19). Compared to the proposed plan, this alternative would generate 1,097 tons daily, or 31 percent, less waste. However, both alternatives would generate substantially more solid waste

than is currently generated. The establishment of recycling programs, in compliance with state law, will reduce the amount of solid waste generated by each resident and employee. As the City grows, the relative amount of solid waste will continue to increase, and new solid waste disposal options will need to be developed.

TABLE 9-19

PROJECTED SOLID WASTE GENERATION
LOW DENSITY LAND USE PLAN ALTERNATIVE

Land Use	Generation Factor[a]	Plan Capacity	Solid Waste Generation
Single Family	15 lbs/du/da	74,243 du	1.11 million lbs/day
Multi-family	5.5 lbs/du/day	12,403 du	0.68 million lbs/day
Commercial	5 lbs/ksf/day	63.8 msf	0.32 million lbs/day
Industrial	10 lbs/ksf/day	282.3 msf	2.82 million lbs/day
Total			4.93 million lbs/day or 2,465 tons per day

[a] City of Los Angeles EIR Guidelines 1981.

Source: Michael Brandman Associates 1990.

Storm Drainage

Due to the reduced development acreage provided in the Low Density Land Use Alternative, the storm drainage system necessary to accommodate the Planning Area runoff would be decreased in size compared to the system that would be needed with implementation of the proposed plan. Low density development on the hillside areas would decrease the amount of runoff from those areas. In addition, natural drainage areas such as Little Rock and Big Rock Wash would be left intact as unimproved channels. The reduced acreage provided for commercial and industrial development in this alternative would act to reduce impervious areas, allowing more absorption of precipitation. Quantitative comparisons between this alternative and the proposed plan is difficult in the

absence of specific lot coverage information, ground infiltration capacities, and the other factors that determine storm water runoff.

Power and Natural Gas

The Low Density Land Use Plan alternative would demand the consumption of less power and natural gas at buildout than would the proposed plan. Table 9-20 shows the estimates of demand for natural gas and power consumption required by implementation of the Low Density Land Use Plan Alternative using the power and natural gas demand factors previously listed in Table 9-12. According to these estimates, this alternative would consume 45 percent less natural gas and 47 percent less electricity than the proposed plan.

TABLE 9-20

PROJECTED POWER AND NATURAL GAS CONSUMPTION LOW DENSITY LAND USE PLAN ALTERNATIVE

Land Use	Gas Consumption	Power Consumption
Residential	544.6 million cu ft/mo	526.9 million kWh/yr
Commercial[a]	159.5 million cu ft/mo	561.4 million kWh/yr
Industrial	931.6 million cu ft/mo	2,484.2 million kWh/yr
Total	1,635.7 million cu ft/mo	3,572.5 million kWh/yr

[a] Includes total of commercial and public facility square footage.

Source: Michael Brandman Associates 1992.

Telephone and Cable Television

Implementation of the Low Density Land Use Plan Alternative would require lower levels of telephone and cable television service, when compared to the proposed plan, due to the reduced amount of development which would occur. Because development would be concentrated in the urban core, fewer utility lines and utility easements would be required throughout the Planning Area's periphery.

Risk of Upset

Under the Low Density Land Use Plan Alternative, the San Andreas Fault rift zone is designated as open space (1 dwelling unit per 40 gross acres) and rural residential (1 dwelling unit per 2.5 gross acres). These categories are the least intensive land uses designated under this alternative. Development at these densities would reduce the exposure of residents and users to earthquake hazards within the fault areas.

Aircraft crash zones (accident potential zones) located northeast of USAF Plant 42 are designated as open space under the Low Density Land Use Plan Alternative. The accident potential zones located southwest and west of the plant are designated for industrial development. The potential impacts from hazards associated with aircraft flight operations at Plant 42 and the proposed regional airport will be minimized due to the relatively low user populations attracted to the open space and industrial land uses. Therefore, potential for human injury from an aircraft incident would be reduced compared to those proposed plan.

Also, risk associated with hazardous waste and materials originating from the industrial areas will be less under this alternative than under the proposed plan because less area will be developed for industrial development.

Noise

The projected decrease in traffic and industrial uses at buildout of the Low Density Land Use Plan, as compared to the proposed project, will result in a reduction of noise levels. Under this alternative, noise impacts would be confined to areas adjacent to major streets, freeways, railways, USAF Plant 42 and the proposed regional

airport, industrial areas, and the City's central core. The outlying open space areas would receive fewer noise impacts due to the decreased traffic levels and lower development densities.

Light

The specific impacts from light and glare emanating from both natural and artificial sources are difficult to evaluate in the context of a general plan because they are typically project specific. However, the magnitude of impacts from the implementation of this alternative is expected to be less than implementation of the proposed project because the typical sources of light and glare, such as street lighting, building signage, and reflective building materials, will be reduced under the Low Density Land Use Plan Alternative. Similarly, impacts associated with extensive shading from excessive building bulk will likely be less significant under this alternative than under the proposed plan.

Aesthetics

The open space areas, proposed by this alternative to surround the City's central core, will preserve the hillsides and protect the existing views of the surrounding mountains. This alternative will also assist in maintaining a rural atmosphere by concentrating denser development within the center of the Planning Area and allowing large lot development on the outskirts.

Cultural Resources

The Low Density Land Use Plan Alternative would have fewer impacts on cultural resources at plan buildout than would the proposed project. The placement of the open space designations in the hillside area coincides with those areas having high potential for cultural and paleontological resources; therefore, these resources are better protected under this alternative than under the proposed plan which allows more intensive development in these zones. Impacts to historical resources would be similar under either plan since those resources are concentrated in the areas proposed for further development.

Summary

This alternative, if implemented, would result in fewer impacts to the environment than the proposed project. However, because of current development pressures, the Low Density land Use Plan Alternative is currently not considered desirable for the area. Palmdale continues to grow at a rapid pace; this land use alternative may not be able to accommodate the demand for future growth in the area and would probably have to be amended soon after adoption to respond to these development demands. A second negative aspect of this alternative is the reduction of industrial acreage around USAF Plant 42 and the proposed regional airport. This reduction could discourage industrial expansion and the development of industries which support aerospace.

9.4 URBAN BOUNDARY ALTERNATIVE

Under this alternative, the land uses identified for the proposed plan would be implemented; however, an urban boundary limit would be placed on the land use map. This limit would delineate the extent of urban development; development outside the line would be discouraged. This concept would reduce the sprawling effect that often occurs with development of an area. The implementation of this alternative would result in the same impacts as the proposed plan at buildout. However, many of the impacts would be delayed until later in the buildout process with the use of an urban boundary concept. For example, impacts to biological resources in the outlying areas would be reduced until development reaches those locations. Therefore, existing biological systems would remain intact for longer periods of time.

9.4.1 IMPACTS

Geology

Buildout impacts under the Urban Boundary Alternative would be the same as the proposed plan; however, many areas subject to geological hazards would not be developed until later in the buildout process. Hillside areas and the San Andreas Rift Zone could remain as open space for longer periods of time, reducing the number of residents exposed to geological risks for as much as 20 years. In addition, technological advances may occur which would assist in mitigating these conditions as time goes on. Therefore, if development of these areas is postponed, the risks of developing these areas may be reduced.

Air Quality

Assuming the rate of development is not constrained under this alternative, impacts to air quality would be the same under either the Urban Boundary Alternative or the proposed plan.

Water Resources

The development of the outlying areas would occur later in time; therefore, the extension of drainage facilities could be delayed. Therefore, development under this alternative would result in the delay of impacts relating to drainage facilities and potential for flooding.

Biology

The implementation of this alternative would delay the disruption of biological communities in the outlying portions of the Planning Area as compared to the development allowed under the proposed plan. Under this alternative, large portions of the hillside areas and areas within and around Little Rock Wash would remain in a natural condition for a longer period of time.

Natural Resources

The ultimate protection of open space would be the same under either the Urban Boundary Alternative or the proposed plan. The difference between the proposals would be the timing of the development for outlying portions of the Planning Area. In this respect, more areas may be left vacant for longer periods as development moves from the central core of the City to the exterior areas proposed for development.

The mineral resources in Little Rock Wash could continue to be extracted under either scenario.

Land Use

Implementation of the Urban Boundary Alternative would have similar land use impacts as would implementation of the proposed plan.

Population

Buildout population and employment would be the same for both this alternative and the proposed plan.

Housing

This alternative, like the proposed plan, could accommodate 139,205 dwelling units at buildout. The development of these units would be determined by their proximity to existing development and infrastructure. Therefore, under this alternative, housing proposed in the outlying, vacant portions of the Planning Area would be delayed until infill of existing lots had occurred and the necessary infrastructure was in place.

Transportation and Circulation

At buildout, traffic impacts caused by implementation of this alternative would be the same as those caused by the proposed plan. However, in the interim, this alternative would maximize the efficiency of the circulation infrastructure by limiting sprawling development. Thus, the need for extensive roadway improvements in the outlying, vacant areas would be reduced until development opportunities in the urban core were exhausted.

Public Services

The impacts to public services cause by this alternative would be similar to those caused by the proposed plan. However, the provision of these services would be modified under the Urban Boundary Alternative. For example, fire protection services could be provided in a more efficient manner using existing fire stations because the demand for that service would be concentrated in the developed portion of the City. Funding for this service could be directed to additional manpower and equipment rather than facilities. At buildout, however, the same need for fire protection services would exist under either alternative. This same rationale holds true for police protection, schools, parks, and library services.

Public Utilities

Similar to public services, the provision of public utilities would be modified under the Urban Boundary Alternative. The efficiency of the infrastructure and facilities required for water, sewer, storm drainage, power, natural gas, telephone, and cable television would be maximized because development would be concentrated rather than dispersed. This efficiency would translate into cost savings for those agencies which provide and

maintain the infrastructure. At buildout, however, the same need for these utilities would exist under either alternative.

Risk of Upset

Under the Urban Boundary Alternative, development within portions of the San Andreas Fault Rift zone would be delayed. However, since the same amount of development would be allowed under this alternative and the proposed project, the ultimate risk of upset due to seismic activity or an aircraft incident would be the same under both this alternative and the proposed plan.

Noise/Light

At buildout, the Urban Boundary Alternative would have the same impacts as the proposed project. However, since development would be delayed for a time in certain areas, noise levels and light impacts in those areas would be reduced until development finally occurred.

Aesthetics

The vacant areas around the perimeter of the Planning Area would remain vacant for a longer period of time under this alternative. Ultimately, however, this alternative will result in the same impacts to aesthetics as the proposed plan.

Cultural Resources

Implementation of this alternative would delay impacts on cultural resources until development reached the hillside/rift zone area where those resources are concentrated. The advantage of this delay may be the development of new technology or survey techniques that will provide a more meaningful understanding of these resources before they are lost. In this aspect, implementation of this alternative would be more beneficial to these resources than would the proposed plan. Impacts to historical resources would be similar under either plan since those resources are concentrated in the areas already developed.

Summary

This alternative, if implemented, would result in the same impacts to the environment as the proposed project except that many of these impacts would be delayed until later in the development process. However, because of current development pressures, implementation of the Urban Boundary Alternative would be difficult. Property owners outside of the Urban Boundary line could pressure the City to amend the line to allow, or remove impediments from, development.

9.5 FUTURE UPDATE ALTERNATIVE

The Future Update Alternative assumes that a general plan update at this time is not necessary; the update could be postponed to a future date. Because this alternative assumes that a change will occur in the future, it is not possible to determine a buildout condition for the Planning Area. Therefore, the analysis of the Future Update Alternative can only be qualitative.

This alternative is similar to the Existing General Plan Alternative in that it would allow development to continue under the existing General Plan. However, this alternative assumes that the existing plan would be updated before the Planning Area is built out. Therefore, until such time as the update would occur, the impacts from this alternative would be the same as those identified in Section 9.2, Existing General Plan Alternative. If the future general plan update adopted a plan proposing significantly less development than the proposed plan, then the overall impacts of this alternative would be less. However, because it is difficult to speculate on future actions, it is impossible to determine the magnitude of impacts associated with the selection of this alternative at this time.

As stated in Section 9.2, the existing General Plan, since its adoption in 1975, has not kept pace with the changes experienced in Palmdale. Because of its outdated condition, the existing General Plan is not addressing the economic and social needs of the community and there are no obvious benefits to further delaying the adoption of a General Plan that addresses those needs. Therefore, selection of the Future Update Alternative is not desirable.

9.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Of the alternatives considered, implementation of the No Project alternative would result in the fewest environmental impacts. This alternative would be environmentally superior in all respects. However, because this alternative would allow no additional growth, it is not considered desirable at this time.

Section 15126 (D)(2) of CEQA indicates that when the "No Project" alternative is identified as the environmentally superior alternative, that the EIR should identify another environmentally superior alternative among the other alternatives. Among the remaining alternatives, the Low Density Land Use Plan Alternative would have the fewest impacts upon buildout.

The Low Density Land Use Plan Alternative, because of it reduced housing capacity, reduced industrial area and lower density designations for sensitive areas would generate fewer environmental impacts than the other alternative analyzed, including the proposed plan. Table 9-2 illustrates the relative impacts of each alternative.

SECTION 10
MITIGATION MONITORING

10.1 MITIGATION MONITORING PROGRAM

(TO BE PREPARED)

SECTION 11

ORGANIZATIONS AND PERSONS CONTACTED

Affiliated Medical Enterprises (Palmdale General Hospital)
- Suzanne Holmes

Angeles National Forest

Antelope Valley Community College
- William Fellers
- Ray Yoshida, Special Programs Director

Antelope Valley-East Kern Water District
- Russ Fuller

Antelope Valley Fire Prevention Bureau
- Don Kanallakan

Antelope Valley High School District
- Richard Aitken, Engineering
- Dr. Sanchez, Assistant Superintendent

Antelope Valley Sheriffs Department
- Deputy John Silvers
- Sgt. Riley
- Sgt. Collins
- Lt. Pigott, Operations
- Deputy Murren

California Department of Finance, Demographic Research

California Department of Health Services
- Edgar Dymally

California Department of Water Resources
- Don Long

California State Water Project
- Richard Jacobi

California State Water Resources Control Board
- Vera Melnick

City of Palmdale

Molly Bogh, Director of Planning
Annette R. Gonzales, Emergency Plan Coordinator
David Koontz, Planning Department
Laurie Lile, Planning Department
Sonja Wilson, Planning Department
Linda Storsteen, City Librarian
Steve Williams, Public Works Director
John Lasagna, Parks and Recreation Director

CIT Seismology Center

Kate Hutton

Converse Consultants

Greg Rzonca, Senior Engineering Geologist

Dam Safety Division

Walt Terry

Department of Agriculture

Steven Brown, Farm Advisor
Steve Orloff, Farm Advisor

Department of Water & Power, Los Angeles

Mr. Martinez, Civil Division
Mr. Coleman, Operations Engineering

Eastside Union School District

Dianne, Payroll Department

Jones Intercable

Keppel Union School District

Agnes Parker
Scott Smith

Lake Elizabeth-Lake Hughes School District

Lancaster School District

Dr. Gocke, Pupil Services
Lori Kurijama, Accounting Department

Los Angeles County, Department of Parks and Recreation

James McCarthy

Ruth Roess

Los Angeles County Department of Public Works, Waterworks and Sewer Maintenance Division
Roosevelt Manor, Supervising Engineer
Kenneth Rosander, Electro-Mechanic
Gary Hartly

Los Angeles County Department of Regional Planning
Harold Clark

Los Angeles County Fire Department
James B. Hunt, Deputy Chief
Steve Sherrill, Asst. Fire Chief
Jerry Peskell, Lancaster
Capt. Dale Lincoln
Capt. Campos

Los Angeles County Museum of National History
Dr. James D. Stewart, Assistant Curator

Los Angeles County Sanitation Districts
Paul Prestia, Project Engineer
David Bruns
Tim Lann, District #20

Los Angeles County Waterworks Districts
Tom Eng, Principal C.E. Asst.
Henry Roediger
David Gaitan, District 34

Los Angeles County Flood Control District
Dennis Hunter
Jarnea Franklin

Los Angeles County Library
Stan Raider, Area Manager
Chuck Beladio, Lancaster Librarian
Mrs. Geisen, Quartz Hill Librarian

Office of Emergency Services
Al Villere, Senior Planner
Subarroa Kodavanti

Pacific Bell

Chuck Velasquez
Bill Lucas

Palmdale Board of Realtors
Pat Hunt

Palmdale General Hospital
Phil Mazucca, Administrator

Palmdale School District
Pamela Johnson, Facilities Coordinator

Palmdale Disposal Company
Philip Arklin, Owner
Fred Valentino, Manager

Palmdale Water District
Lowell Felt
Myron Gouchanour
Jon Permula
Dennis Hoffmeyer

Quartz Hill Water Company
Ben Harrison

Regional Water Quality Control Board
George Trubiano

Soledad Agua Dulce School District

South Antelope Valley Emergency Services
June Hawker, Director

Southern California Edison Company
Fred Trueblood, Area Manager
Rod Boosaliz, Planning Services

Southern California Gas Company
Chris Estrada
Sharon Awakuni
Colleen Walker

United States Air Force Plant 42
Mike Graziano

United States Department of Agriculture, Soil Conservation Service
Richard Al Campbell

United States Geological Survey
Russ Miller, Author, USGS Special Report 143

West Antelope Valley Historical Society
Bill DeWitt, President

Westside Union School District
George Reams, District Superintendent
Alan Sacks

SECTION 12

REFERENCES

I. LAND USE

Antelope Valley Areawide General Plan, Los Angeles County Department of Regional Planning, 1984.

Draft Land Use Element, City of Palmdale, 1992.

Existing Land Use Plan, City of Palmdale.

Growth Management Plan, Southern California Association of Governments, 1989.

II. CIRCULATION

Circulation and Transportation Needs Study for Palmdale Southwest Planning Area by DKS Associates, July 1990.

Draft Circulation Element, City of Palmdale, 1992.

Draft Traffic Impact Study by DKS Associates, June 1990.

Highway Capacity Manual, Transportation Research Board, Special Report No. 209, Washington, D.C., 1985.

III. HOUSING

Population and Housing Estimates for California Cities and Counties, Department of Finance, 1980-1989.

Growth Management Plan, Southern California Association of Governments, 1989.

Regional Housing Needs Assessment, Southern California Association of Governments, 1988.

1986 Demographic/Economic Summary, Department of Development Services, City of Palmdale.

Draft Housing Element, City of Palmdale, 1992.

Draft Land Use Element, City of Palmdale, 1992.

Antelope Valley Press, August 1988 - February 1989.

Census of Population and Housing, 1980, U.S. Census, 1980.

Industrial Commercial Employment Report, Private Industry Council, 1984.

IV. PUBLIC SERVICE

Annual Fiscal Budget, City of Palmdale, 1987-88.

Draft Public Services Element, City of Palmdale, 1992.

Service Area Map, GTE.

Telephone Exchange Areas, California, Public Utilities Commission.

Los Angeles Water Works District Maps, Department of Public Works, Los Angeles County.

Los Angeles Sanitation District Maps, Office of Chief Engineer, Los Angeles County.

Drainage Management Plan, City of Palmdale, BSI Consultants, June 1989.

Drainage Master Plan, City of Palmdale, BSI Consultants, June 1989.

Rules on File, Public Works Commission.

Antelope Valley Final Report on the Comprehensive Plan of Flood Control and Water Conservation, Los Angeles County Department of Public Works, June 1987.

Annual Reports on Water Quality and Consumption, State Department of Health Services, 1988.

Los Angeles County Solid Waste Management Plan, Department of Public Works, 1985.

Westside Union School District Attendance Areas.

Palmdale School District Master Plan, Spring 1988.

Master Plan/Enrollment Projections, Davis-Duhaime Associates, August 1988.

Ritter Ranch Sewerage Study by Brockmeier Consulting Engineers, Inc., December 1989.

Ritter Ranch Water Supply Study for 11,500-acre development by Brockmeier Consulting Engineers, Inc., December 1989.

Eastside Union School District Boundary Map.

Antelope Valley High School Attendance Areas, February 1987.

Keppel Union School District Attendance Areas.

AVEK Brochure, Boyle Engineering.

V. ENVIRONMENTAL RESOURCES

Revegetation Test Program for China Lake Weapons Center, MBA, July 1988.

Air Quality Data, 1987-91, SCAQMD

Air Quality Handbook, 1987, SCAQMD

Areal Geology of the Western Mojave Desert, California USGS Professional Paper 522.

Calibration of a Mathematical Model of the Antelope Valley Ground - Water Basin, California USGS Water-Supply Paper 2046.

Draft Environmental Resources Element, City of Palmdale, 1992.

Guide for Planning Recreation Parks in California.

Barrel Springs Archaeology, Bruce Love, 1989.

Antelope Valley Archaeological Society Occasional Paper 1, Antelope Valley Archaeological Society, 1987.

Antelope Valley Archeological Society Occasional Paper No. 2, Antelope Valley Archaeological Society, 1990.

Paleontologic Sensitivity City of Palmdale, Los Angeles County, California, Robert E. Reynolds, 1990.

Here Roamed the Antelope, Kern-Antelope Historical Society, Inc., 1977.

Los Angeles County Riding and Hiking Trails, Los Angeles County Department of Parks and Recreation.

Ritter Ranch: A Predevelopment Biological Assessment by Ecological Research Services, November 1989.

Mohave Ground Squirrel Survey of Ritter Ranch Property by Ecological Research Services, June 1990.

Historical Review and Site Reconnaissance for Ritter Ranch by Leighton and Associates, December 1989.

Cultural Resources Assessment: Ritter Ranch by LSA Associates, Inc., December 1989.

USGS Special Report 143, Mineral Land Classification of the Greater Los Angeles Area, 1984.

USGS Water Resources Data, Report CA-88-5, 1988 and Report CA-87-5. 1987.

FIRM Maps, Federal Emergency Management Agency.

The California Scenic Highway Map, Caltrans.

Letter from Antelope Valley Trails Council, Gloria Gossard, January 1989.

List of Recommended Plant Materials, Steve Miller, Department of Parks and Recreation, City of Palmdale, 1982.

SMARA Report #6, Division of Mines and Geology, Department of Conservation, January 1987.

Hydrology Report. Los Angeles County Department of Public Works, 1977-80; 1980-87; 1987-88.

USGS Open File Report 86-498, USGS, 1986.

USGS Water Resources Investigations. Report 84-4081, 1984.

California Groundwater, State Department of Water Resources, 1975.

Water Wells in the Eastern Part of the Antelope Valley Area, Department of Water Resources, USGS, Bulletin No. 91-12, December 1966.

Groundwater in California The Experience of Antelope Valley, Snyder, J. Herbert, Foundation Groundwater Studies No. 2, January, 1955.

Geologic and Hydrogeologic Maps of the Southern Part of Antelope Valley, Lewis, R.E. and R.E. Miller, USGS, May 21, 1968.

VI. NOISE

Draft Noise Element, City of Palmdale, 1992.

Guidelines for the Prevention of Traffic Noise Problems, U.S. Department of Transportation, Federal Highway Administration, April 1985.

Guidelines for the Preparation and Content of Noise Elements of the General Plan, California Department of Health, February 1976.

Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety, U.S. EPA, March 1974.

Caltrans Noise Manual, California State Department of Transportation, March 1980.

FHWA Highway Traffic Noise Prediction Model (FHWA-RD-77-108), U.S. Department of Transportation, Federal Highway Administration, December 1978.

Guidelines for Considering Noise in Land Use Planning Control, U.S. Department of Transportation, Federal Interagency Committee on Urban Noise, June 1980.

Department of Labor Occupational Noise Exposure Standard, Code of Federal Regulations, Title 29, Chapter XVII Part 1910, Subpart G, 36 FR10466, May 29, 1971 and June 19, 1983.

Highway Noise Control Standards and Procedures, Title 23, Code of Federal Regulations, Chapter I, Subchapter J, Part 722, 38, FR15953, Department of Transportation, Federal Highway Administration, June 19, 1973 and May 29, 1979.

Environmental Criteria and Standard, Title 24, Code of Federal Regulations, Part 51, issued at 44 FR40860, Department of Housing and Urban Development, July 12, 1979 and 49 FR880, January 6, 1984.

California Motor Vehicle Code, Department of Motor Vehicles, 1988.

Sound Transmission Control Standards, Title 24, Chapter 2.5, California Administrative Code, 1986.

Public Works, Title 21, Chapter 25, Subchapter 26, California Administrative Code, 1986.

Occupational Noise Control Standards, Industrial Relations, Title 8, Chapter 4, California Administrative Code, 1984.

VII. SAFETY

Draft Safety Element, City of Palmdale, 1992.

Design Report for Palmdale Dam and Appurtenances, Bechtel Corp., April 1967.

Multi-hazard Functional Planning Guide, Office of Emergency Services, 1985.

Emergency Plan and Operations Manual, City of Palmdale.

California Geology, Department of Conservation, Division of Mines and Geology, April 1985.

Simplified Fault Map of California, Department of Conservation, Division of Mines and Geology.

Evacuation Planning Guidance, Office of Emergency Services.

National Shelter Survey, Office of Emergency Services.

Underground Tank Cases in the Los Angeles Region, Regional Water Quality Control Board.

Reception and Care Facility Listing, Office of Emergency Services, March 1988.

Preliminary Geotechnical Engineering Report: Ritter Ranch Property by Buena Engineers, November 1989.

Air Installation Compatibility Use Zone by USAF Plant 42, August 1990.

Public Shelter Directory, Office of Emergency Services.

Seismicity of California, 1900-1931, USGS Special Report 135, 1978.

Fault-Rupture Hazard Zones in California, USGS Special Publication 42, 1985.

Natural Hazard Vulnerability Facility Listing, Office of Emergency Services.

Hazardous Waste and Substances Site List, Office of Planning and Research.

Fault Map of California With Locations of Volcanoes, Thermal Springs and Thermal Wells: California Division of Mines and Geology Geologic Data Map No. 1. C. W. Jennings, 1975.

Safety Element, Los Angeles County General Plan, Proposed Revision: Prepared for the Department of Regional Planning, County of Los Angeles. Leighton and Associates, Inc., 1990.

Technical Appendix to the Safety Element of the Los Angeles County General Plan, Hazard Reduction in Los Angeles County, Volume 2, Plates 1-8: Prepared for the Department of Regional Planning, County of Los Angeles. Leighton and Associates, Inc., 1990.

Map Showing Late Quaternary Faults and 1978-84 Seismicity of the Los Angeles Region, California: U.S. Geological Survey Miscellaneous Field Studies Map MF-1964. Ziony, J. I, and L. M. Jones, 1989.

CERCLIS, Environmental Protection Agency.

Soil Survey: Antelope Valley Area California, Department of Conservation, Division of Mines and Geology, 1970.

Palmdale International Airport, Final EIS, January 1978.

Earthquake Planning Scenario, Special Publication Co., California Department of Conservation, Division of Mines and Geology, 1982.

VIII PREPARERS OF THE EIR

Michael Brandman Associates
606 South Olive Street, Suite 600
Los Angeles, California 90014

Appendix A

MEA Updating Guide

APPENDIX A
MEA UPDATING GUIDE

The Master Environmental Assessment (MEA) for the City of Palmdale was based on the most current available information at the time of research. The information contained therein is subject to change based on the environmental, physical and social conditions in the planning area. If the MEA is to serve as a master document for existing conditions, it should be updated at least annually to incorporate changes in the city's characteristics, data and factors that affect the planning area. In order to keep the MEA accurate and useful, updates should be made consistently and regularly. Because yearly data is often unavailable at the start of the new year, it would be more efficient to conduct the update at mid-year when last year's data is available and the previous year's information may be outdated.

Not all information in the MEA will change every year. Most data will not need updating until new studies and reports are prepared or after capital facilities are constructed. Other issues are monitored more closely and numbers are readily available from year to year. Some information remains relatively constant (such as the area's geology, natural resources and biological resources) and others vary greatly from year to year (such as population, housing stock, air quality, and school data). Yearly changes can be expected for land use information, population and demographic characteristics, housing stock and costs, traffic volumes, air quality, school enrollment and facilities, and water service data. At the same time, updates for fire protection services, police protection services, parks and recreational facilities, noise measurements, library facilities, sewer services, storm drain facilities, solid waste disposal services, and cultural resources (historic structures, archaeological sites, and paleontological sites) can be made at the yearly update to monitor changes in facilities and available information.

Table 1 lists the different topics in the MEA, data which is expected to change and sources of information to update these data.

TABLE 1

MEA UPDATING GUIDE

MEA Section	Topic	Specific Data	Source
3.1	Geology/Seismicity	Base data on planning area	California Department of Mines and Geology, CIT Seismology Center, Los Angeles County Engineer
3.2	Air Quality	Air quality monitoring data, air pollution point sources, AQMP	SCAQMD, Palmdale City Planning Department
3.3	Water Resources/ Flood Hazards	Changes in aquifer recharge, water quality, water sources, flood hazards	U.S. Geological Survey, FEMA, California Department of Water Resources, Antelope Valley-East Kern Water Agency, Palmdale Water District, local water companies
3.4.1	Vegetation	Additions to listing of endangered plant species, changes to street tree list	California Native Plant Society, Palmdale City Department of Public Works
3.4.2	Wildlife	Additions to listing of endangered animal species	Department of Fish and Game, U.S. Fish and Wildlife Service
3.5.1	Mineral Resources	Aggregate resource areas and capacities	California Department of Mines and Geology
3.5.2	Open Space	Status of open spaces	Palmdale City Parks and Recreation Department
3.6	Land Use	Existing land uses, vacant areas, land use and zoning consistency, adequacy of land use plan	Palmdale City Planning Department

TABLE 1 (continued)

MEA Section	Topic	Specific Data	Source
3.7	Population	Current population and projections	Bureau of Census, Los Angeles County Regional Planning, SCAG, California Department of Finance
3.8	Housing	Housing stock, rents, costs, regional housing needs	Bureau of Census, SCAG, Construction Industry Research Board, Palmdale Board of Realtors, Palmdale City Planning Department, State Department of Finance
3.9	Transportation	Traffic volumes, street widths, signalization, street classifications, projects	California Department of Transportation, Palmdale Department of Public Works, DKS, Southern California Association of Governments
3.10.1	Fire Protection Services	Fire service areas and new facilities	USAF Plant 42, Los Angeles County Fire Department, U.S. Forest Service
3.10.2	Police Protection Services	County contract and new facilities	Los Angeles County Sheriff Department, City Department of Finance
3.10.3	School Services	Attendance boundaries, new facilities, capacities, enrollment	Palmdale School District, Antelope Valley College, Antelope Valley High School District, Eastside Union School District, Keppel Union School District, Westside Union School District, Lancaster School District, Soledad-Agua Dulce School District
3.10.4	Parks and Recreation Facilities	Parkland inventory and facilities, bicycle paths, equestrian trails	Los Angeles County Department of Parks and Recreation, Angeles National Forest, Palmdale Department of Parks and Recreation

TABLE 1 (continued)

MEA Section	Topic	Specific Data	Source
3.10.5	Library	New facilities and programs, users	City of Palmdale Public Library, Los Angeles County Library Services
3.10.6	Hospitals	New facilities, services and users	Palmdale General Hospital, Palmdale Planning Department
311.1	Water Services	Service areas, new facilities, consumption levels, sources, conservation programs, location of water lines	AVEK, California Department of Health Services, Los Angeles Waterworks District, Palmdale Water District, USAF Plant 42
3.11.2	Sewer Services	Service areas, new facilities, capacities, programs, location of sewer lines	Los Angeles Sanitation District, City Department of Public Works, USAF Plant 42
3.11.3	Solid Waste Disposal	Landfill capacity, recycling programs, collection method	Palmdale Department of Public Works, Antelope Valley Landfill, Palmdale Disposal Company, Los Angeles County Public Works
3.11.4	Storm Drainage	Drainage facilities, capacities, projects, effects of facilities on flood hazards	Los Angeles County Flood Control District, Palmdale Department of Public Works, Los Angeles County Department of Public Works
3.11.5	Power	Services, new facilities, location of lines	Southern California Edison Company
3.11.6	Natural Gas	Services and new facilities, location of lines	Southern California Gas Company
3.11.7	Telephone	Service areas, new facilities, location of lines	General Telephone of California, Pacific Bell
3.11.8	Cable	Services, new facilities, location of lines	Jones Intercable, Palmdale City Planning Department

TABLE 1 (continued)

MEA Section	Topic	Specific Data	Source
3.12.1	Earthquake Hazards	Data on seismic hazards, emergency plan	California Department of Mines and Geology, State Office of Emergency Services, Dam Safety Division, Palmdale Emergency Coordinator
3.12.2	Aircraft Crash Hazards	Flight patterns, AICUZ	USAF Plant 42, FAA, City of Los Angeles Department of Airports
3.12.3	Hazardous Materials	Industries using and producing hazardous materials, list of hazardous materials, list of sites with known hazardous materials contamination	OPR, Regional Water Quality Control Board, EPA, Los Angeles County Fire Prevention Bureau, City Planning Department, State Department of Health
3.13	Noise	Noise levels, major noise sources, noise contours	USAF Plant 42, Palmdale City Planning Department
3.14	Light	Shade and shadow analysis	Palmdale City Planning Department
3.15.1	Viewsheds	Status of scenic corridors	Palmdale City Planning Department, Caltrans
3.15.2	Scenic Highways	Designated scenic highways, programs	Caltrans, Palmdale City Planning Department
3.15.3	Community Design	Beautification programs and projects	Palmdale City Planning Department, City Architectural Review Board
3.16.1	Historic Resources	Addition to listing of historic sites and structures, preservation programs	West Antelope Valley Historical Society, UCLA Archaeological Information Center, Archaeological/Historical Information Maps, Palmdale City Planning Department

TABLE 1 (continued)

MEA Section	Topic	Specific Data	Source
3.16.2	Archaeological Resources	Addition to listing of archaeological sites, preservation programs	UCLA Archaeology Information Center, Palmdale City Planning Department, Native American, Heritage Commission, Archaeological/ Historical Information Maps
3.16.3	Paleontological Resources	Addition to listing of paleontological sites, preservation programs	Los Angeles County Museum of Natural History, San Bernardino County Museum of Natural History, Paleontological Information Maps

Appendix B

Initial Study and Notice of Preparation

APPENDIX I

ENVIRONMENTAL CHECKLIST FORM

I. BACKGROUND

1. Name of Applicant: CITY OF PALMDALE
2. Address and Phone Number of Applicant:
   712 EAST PALMDALE BLVD.
   PALMDALE, CA. 93550
   (805) 273-3162
3. Date of Checklist Submitted: SEPTEMBER, 1987
4. Agency Requiring Checklist: City of Palmdale
5. Number of Project: GENERAL PLAN UPDATE

II. ENVIRONMENTAL IMPACTS

(Explanations of all "yes" and "maybe" answers are required on attached sheets.)

	YES	MAYBE	NO
1. Earth. Will the proposal result in:			
a. Unstable earth conditions or in changes in geologic substructures?		X	
b. Disruptions, displacements, compaction or overcovering of the soil?		X	
c. Change in topography or ground surface relief features?	X		
d. The destruction, covering or modification of any unique geologic or physical features:		X	
e. Any increase in wind or water erosion of soils, either on or off the site?		X	
f. Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake?			X
g. Exposure of people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards?		X	
2. Air. Will the proposal result in:			
a. Substantial air emissions or deterioration of ambient air quality?		X	
b. The creation of objectionable odors?			X
c. Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally?			X

	YES	MAYBE	NO
3. Water. Will the proposal result in:			
a. Changes in currents, or the course or direction of water movements, in either marine or fresh waters?		X	
b. Changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff?		X	
c. Alterations to the course or flow of flood waters?	X		
d. Change in the amount of surface water in any water body?		X	
e. Discharge into surface waters, or, in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity?			X
f. Alteration of the direction of rate of flow of ground waters?		X	
g. Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?		X	
h. Substantial reduction in the amount of water otherwise available for public water supplies?			X
i. Exposure of people or property to water related hazards such as flooding or tidal waves?		X	
4. Plant Life. Will the proposal result in:			
a. Change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops and aquatic plants)?	X		
b. Reduction of the numbers of any unique, rare or endangered species of plants?		X	
c. Introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species?		X	
d. Reduction in acreage of any agricultural crop?			X
5. Animal Life. Will the proposal result in:			
a. Change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms or insects)?		X	

	YES	MAYBE	NO
b. Reduction of the number of any unique, rare or endangered species of animals?		X	
c. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals?		X	
d. Deterioration to existing fish or wildlife habitat?		X	
6. Noise. Will the proposal result in:			
a. Increase in existing noise levels?	X		
b. Exposure of people to severe noise levels?		X	
7. Light and Glare. Will the proposal produce new light or glare?	X		
8. Land Use. Will the proposal result in a substantial alteration of the present or planned land use of an area?	X		
9. Natural Resources. Will the proposal result in:			
a. Increase in the rate of use of any natural resources?	X		
b. Substantial depletion of any nonrenewable natural resource?		X	
10. Risk of Upset. Does the proposal involve a risk of an explosion or the release of hazardous substances (including, but not limited to, oil, pesticides, chemicals or radiation) in the event of an accident or upset conditions?		X	
11. Population. Will the proposal alter the location, distribution, density or growth rate of the human population of an area?	X		
12. Housing. Will the proposal affect exisitng housing, or create a demand for additional housing?	X		
13. Transportation/Circulation. Will the proposal result in:			
a. Generation of substantial additional vehicular movement?	X		
b. Effects of existing parking facilities or demand for new parking?	X		
c. Substantial impact upon existing transportation systems?	X		
d. Alterations to present patterns of circulation or movement of people and/or goods?	X		

	YES	MAYBE	NO
e. Alterations to waterborne, rail or air traffic?	X		
f. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians?		X	
14. Public Services. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas:			
a. Fire protection?	X		
b. Police protection?	X		
c. Schools?	X		
d. Parks or other recreational facilities?	X		
e. Maintenance of public facilities, including roads?	X		
f. Other governmental services?	X		
15. Energy. Will the proposal result in:			
a. Use of substantial amounts of fuel or energy?		X	
b. Substantial increase in demand upon existing sources of energy, or require the development of new sources of energy?	X		
16. Utilities. Will the proposal result in a need for new systems, or substantial alterations to the following utilities:			
a. Power or natural gas?	X		
b. Communications systems?	X		
c. Water?	X		
d. Sewer or septic tanks?	X		
e. Storm water drainage?	X		
f. Solid waste and disposal?	X		
17. Human Health. Will the proposal result in:			
a. Creation of any health hazard or potential health hazard (excluding mental health)?			X
b. Exposure of people to potential health hazards?			X
18. Aesthetics. Will the proposal result in the obstruction of any scenic vista or view open to the public, or will the proposal result in the creation of an aesthetically offensive site open to public view?		X	
19. Recreation. Will the proposal result in an impact upon the quality or quantity of existing recreational opportunities?	X		
20. Archeological/Historical. Will the proposal result in an alteration of a significant archeological or historical site, structure, object or building?		X	

	YES	MAYBE	NO
21. Mandatory Findings of Significance.			
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restsrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	___	X	___
b. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time while long-term impacts will endure well into the future.)	___	___	X
c. Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environment is significant.)	X	___	___
d. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	___	___	X

III. DISCUSSION OF ENVIRONMENTAL EVALUATION

IV. DETERMINATION
(To be completed by City of Palmdale)

On the basis of this initial evaluation:

___ I find the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

___ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on the attached sheet have been added to the project. A NEGATIVE DECLARATION WILL BE PREPARED.

X I find the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

Date: NOVEMBER 10, 1987

Sheryl Sanderson
(Signature)

For CITY OF PALMDALE

ENVIRONMENTAL EVALUATION DISCUSSION
GENERAL PLAN UPDATE

1-A
Said project could result in development of areas that are subject to unstable earth conditions or development that creates unstable earth conditions.

1-B
Said project could provide for increased disturbance or overcovering of soils. Soil reports will be required prior to grading or construction of all new development.

1-C
Based on the land use determination, changes in topography could result in both small and large scale development.

1-D
Land use determinations could have the stated effects based on the selected Land Use Plan.

1-E
City's Grading Ordinance will require dust control measures during grading activities.

1-G
Flood Plains management zone and seismic area shown on the City's Land Use Plan and flood insurance rate maps identifies flood hazard areas.

2-A
Land use determination could generate additional traffic and air emissions. Additional study is necessary to determine the level and significance.

3-A & B
Land use determinations could create additional run-off. Hydrology study is required prior to the submittal of tract maps.

3-C, 3-D, 3-E, 3-F, 3-G, 3-I
See discussion under 1-D.

4-A, 4-B, 4-C
Land use determinations and biological evaluations could affect the diversity and number of species within a given area. A plan for the protection and preservation of specimen Joshua Trees is a standard requirement for all development in the City of Palmdale prior to approval of the grading plan. Additional study is necessary to analyze the potential impacts of said project on these resources.

5-A, 5-B, 5-C, 5-D
Land use determinations and biological evaluations could affect the diversity and number of species within a given area.

6-A, 6-B
Noise increases will be generated by temporary construction/grading and the generation of traffic. Operational noise is regulated by City Noise Ordinance #10. Additional study is necessary to determine the land use determinations potential impact on existing levels and exposure to severe noise level.

7
Land use determinations could result in induce development, therefore, creating new light and glare. On-site light created by development would be required to be directed away from adjacent streets and properties.

8
See discussion under 1-D.

9-A and 9-B
See discussion under 1-D.

10
See discussion under 1-D.

11 & 12
Said project could result in induce development, therefore, altering the growth of the City and present residential land use. Additional study is required.

13-A, 13-B, 13-C, 13-D, 13-E, 13-F
Said study could result in a substantial increase in traffic generation and impacts on the present roadway system. Additional study is required.

14
Public services and utilities to serve the City of Palmdale must be analyzed to determine if new systems would be required to serve said project.

15
See discussion under 1-D.

16
See discussion under 14.

18
Community Design Element of the General Plan intent is to define and reinforce the City's identity and make it understandable, livable and visually attractive for residents and visitors.

19
Said project will enhance the recreational opportunities in Palmdale.

20
See discussion under 1-D.

21-A
See discussion under 4-A, 4-B, 4-C, 5-A, 5-B, 5-C, 5-D.

21-C
See discussion under 1-D.

DEC 11 1987

NOTICE OF PREPARATION

TO: _____

_____
(Address)

_____

FROM: City of Palmdale

712 East Palmdale Blvd.
(Address)

Palmdale, CA 93550

SUBJECT: **Notice of Preparation of a Draft Environmental Impact Report**

City of Palmdale will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the probable environmental effects are contained in the attached materials. A copy of the Initial Study x is, ___ is not, attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your response to Sheryl Sanderson at the address shown above. We will need the name for a contact person in your agency.

Project Title: General Plan Update

Project Applicant, if any: City of Palmdale

DATE November 19, 1987 Signature Sheryl Sanderson

Title Associate Planner

Telephone (805) 273-3162

Reference: California Administrative Code, Title 14, Sections 15082(a), 15103, 15375.

NOTICE OF PREPARATION

PROJECT DESCRIPTION

The City of Palmdale is preparing a comprehensive revision of the City's General Plan. Said plan will include the seven (7) elements mandated by Government Code Section 64302 and one (1) optional element. The City of Palmdale, in conjunction with the consulting team of Michael Brandman Associates, will address the following elements:

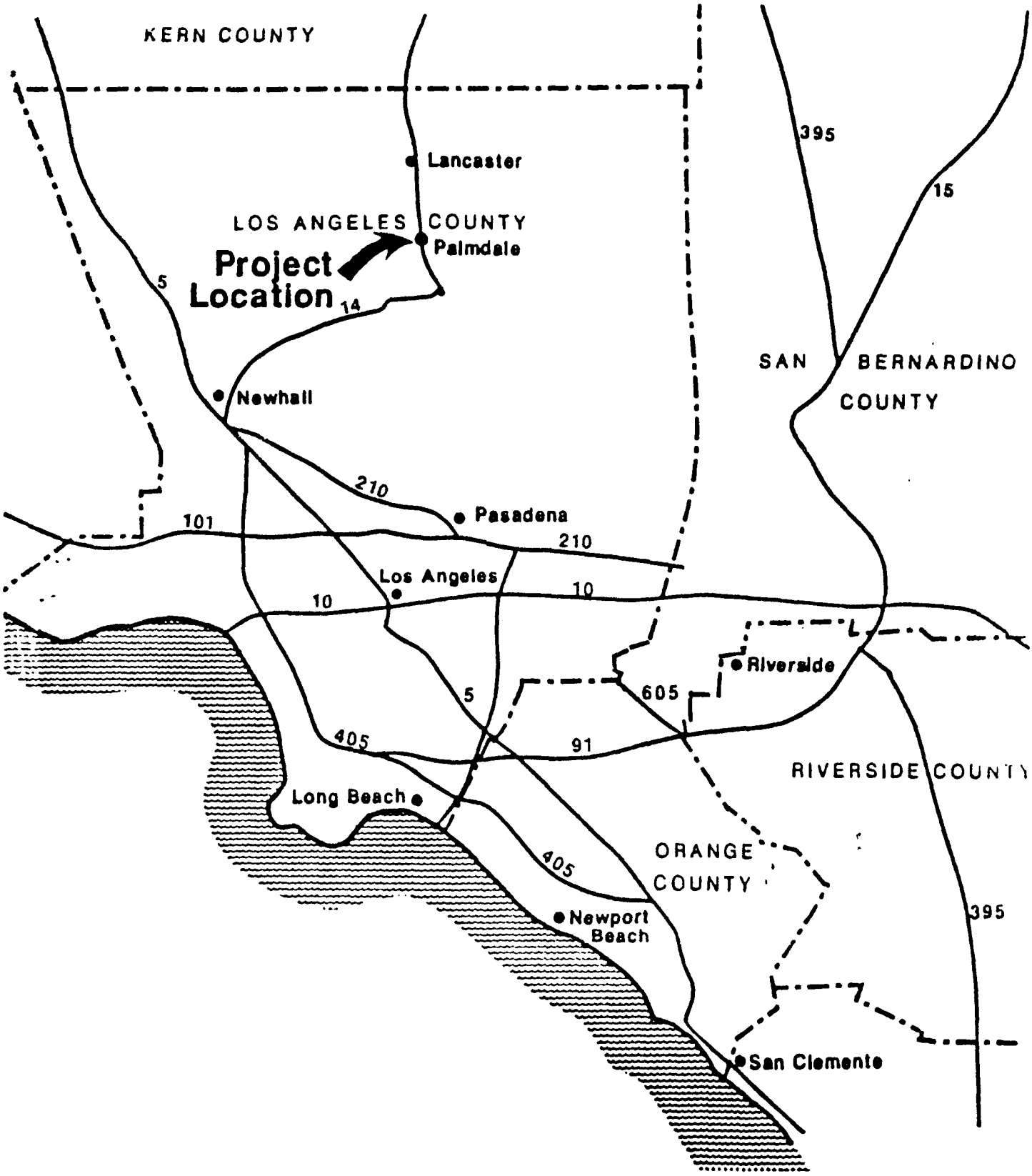
- Land Use
- Circulation
- Housing
- Noise
- Safety
- Open Space/Conservation/Recreation
- Community Design

PROJECT LOCATION

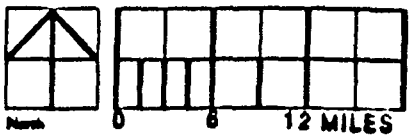
Citywide

PROBABLE ENVIRONMENTAL EFFECTS

During the environmental assessment of the project site all potential impacts have been identified on the attached environmental checklist prepared for the project.



Location Map



Appendix C

Responses to Notice of Preparation

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (818) 458-5100

THOMAS A. TIDEMANSON, Director

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

IN REPLY PLEASE
REFER TO FILE: P-4

January 22, 1988

RECEIVED
FEB 1 1988

Ms. Sheryl Sanderson
Associate Planner
City of Palmdale
712 East Palmdale Boulevard
Palmdale, CA 93550

Dear Ms. Sanderson:

RESPONSE TO A NOTICE OF PREPARATION

Thank you for the opportunity to provide comments on the Notice of Preparation (NOP) of a Draft Environmental Impact Report for the City of Palmdale's General Plan Update.

Waste Management

Any solid and hazardous waste generated from increased population growth, as a result of the plan update, should be addressed in the EIR. This waste may negatively impact the County's existing solid waste facilities, such as the Antelope Valley facility.

Any storm water run-off from any proposed developments and any factors that may impact water quality of run-off will require a clearance from this Department. Any industrial waste discharge to a public sewer will require an Industrial Waste Disposal Permit from this Department.

Where applicable, any hazardous materials/waste used/stored in the area must comply with all requirements of the newly enacted legislation regarding, Hazardous Materials Release Response Plans and Inventory Programs (AB 2185, AB 2187, and AB 3777). The general plan update for the City should reflect and contain information consistent with the County Solid Waste Management Plan. Also, the County Hazardous Waste Management Plan is currently under development. The Palmdale General Plan Update should also be consistent with that plan once adopted.

If you have any questions regarding the waste management comments please contact Mr. Michael Mohajer at (213) 226-4281.

Hydrology/Flood Control

We understand the City of Palmdale has selected a consultant to prepare a flood control master plan to address the ultimate flood control needs of the City, as well as a storm water management plan to provide guidance for drainage requirements on new development. The City of Palmdale has previously indicated that these plans will be coordinated with the Antelope Valley Comprehensive Plan of Flood Control and Water Conservation adopted by the County on June 23, 1987. We feel the proper development coordination, and implementation of these plans may assist in mitigating the impacts of altered and increased runoff caused by new development, and hence, should be discussed in the EIR.

Areas of special concern at this time incude the following:

(a) adequacy of existing drainage requirements with respect to storage and discharge of the incremental increase in runoff and alteration of water courses caused by new development, (b) development of a flood control plan and associated financing, (c) mitigation of increased runoff from development in the City affecting downstream County unincorporated areas including Quartz Hill, (d) continued coordination of dedications for open channels shown on the Comprehensive Plan at the boundary between City and County territory to ensure that future channel alignments match; and (e) minimizing changes to the Comprehensive Plan within the City or its annexations, which result in either a disruption of the alignment, or an increase in cost of Comprehensive Plan facilities, without mitigation or compensation by developers requesting such changes.

If you have any questions regarding the hydrology comments, please contact Mr. Michael Anderson at (818) 458-4310.

Traffic/Circulation

We agree with the Notice of Preparation indicating revisions to the general plan and changes in land usages could significantly impact traffic circulation in the City of Palmdale and the surrounding unincorporated area.

We request the updated general plan address impacts to roadway within the unincorporated area which are in the sphere of influence of the City of Palmdale and recommend mitigation measures such as highway routes within those areas. We recommend the City's plan be consistent with the Antelope Valley Area-wide General Plan which was adopted by the Board of Supervisors on December 4, 1986. That plan discusses the need for an east-west Major Highway or expressway along the Avenue P-8 alignment.

We also recommend the plan address possible funding mechanisms to alleviate the cost of roadway improvements in the City and within the unincorporated County.

We will review the draft general plan update when it has been prepared.

If you have any questions regarding the traffic comments, please call our Traffic Studies Unit at 226-8381.

If you have any questions regarding the Environmental Planning of this Department please contact Ms. Anna-Marie Gilmore at (818) 458-4316.

Very truly yours,

T. A. TIDEMANSON
Director of Public Works

for Brian T. Sasaki

N. C. DATWYLER
Assistant Deputy Director
Planning Division

AMG:ad/AMGPREP

COUNTY OF LOS ANGELES

FIRE DEPARTMENT

POST OFFICE BOX 3009, TERMINAL ANNEX
LOS ANGELES, CALIFORNIA 90051

(213) 267-2481

JOHN W ENGLUND
FIRE CHIEF
FORESTER & FIRE WARDEN

January 26, 1988

Sheryl Sanderson
Associate Planner
City of Palmdale
712 E. Palmdale Blvd.
Palmdale, CA 93550

Dear Ms. Sanderson:

SUBJECT: ENVIRONMENTAL IMPACT REPORT (GENERAL PLAN UPDATE) -- CITY OF PALMDALE

Our evaluation of the impact on fire protection and paramedic service for the proposed development is based on the current level of service available within the general area. With this in mind, additional manpower and equipment may be required as the need arises.

SERVICE RESPONSIBILITY
Due to the fact that only limited information is available on this project at the present time, we are not able to respond completely as to how this project will affect our Department. We would like to reserve the right to respond further at a future date when more information is available.

SERVICE RESPONSIBILITY
The subject development is totally within the boundaries of the Consolidated Fire Protection District.

If you have any questions, please feel free to contact me at 267-2481.

Very truly yours,

JOHN W. ENGLUND

BY

ROBERT P. BLACKBURN, FIRE MARSHAL
PREVENTION & CONSERVATION BUREAU

RPB:lc

STATE OF CALIFORNIA—BUSINESS AND TRANSPORTATION AGENCY GEORGE DEUKMEJIAN, Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 7, P O BOX 2304, LOS ANGELES 90051
TDD (213) 620-3550
(213) 620-5335

December 17, 1987

IGR/CEQA
NOP, DEIR for General
Plan Revision
SCH #87120908
Routes 14/138

Ms. Sheryl Sanderson
Associate Planner
City of Palmdale
712 E. Palmdale Blvd.
Palmdale, CA 93550

Dear Ms. Sanderson:

Caltrans has received the Notice of Preparation of the Draft Environmental Impact Report for the above project. At this time, our only comment is directed towards the possible impacts that the proposed General Plan revision could have upon State transportation facilities. We hope that the proposed document will address the degree, and possible mitigation, of project-related impacts upon the operations of these facilities. We look forward to reviewing the draft document.

Thank you for this opportunity to comment. Should you have any further questions, please contact the environmental review coordinator for this project, Kreig Larson, at (213) 620-2819.

Very truly yours,

W. B. BALLANTINE, Chief
Environmental Planning Branch

STATE OF CALIFORNIA—OFFICE OF THE GOVERNOR

GEORGE DEUKMEJIAN, Governor

OFFICE OF PLANNING AND RESEARCH
1400 TENTH STREET
SACRAMENTO, CA 95814

DATE: December 10, 1987

TO: Reviewing Agencies

RE: The City of Palmdale's NOP for
General Plan Update/City of Palmdale
SCH# 87120908

Attached for your comment is the City of Palmdale's Notice of Preparation of a draft Environmental Impact Report (EIR) for the General Plan Update/City of Palmdale Project.

Responsible agencies must transmit their concerns and comments on the scope and content of the EIR, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of this notice. We encourage commenting agencies to respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Sheryl Sanderson
City of Palmdale
712 East Palmdale Blvd.
Palmdale, CA 93550

with a copy to the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the review process, call Keith Lee at 916/445-0613.

Sincerely,

David C. Nunenkamp
Chief
Office of Permit Assistance

Attachments

cc: Sheryl Sanderson

W: 87120908

': Sent by Lead 'X': Sent by SCH

Genevieve Shiroma
Air Resources Board
1102 Q Street
Sacramento, CA 95814
916/322-8267

Barbara Kierbow
Dept. of Boating & Waterways
1629 S Street
Sacramento, CA 95814
916/445-6281

Gary L. Holloway
California Coastal Commission
631 Howard Street, 4th Floor
San Francisco, CA 94105
415/543-8555

Sharron Taylor
California Energy Commission
1516 Ninth Street, Rm. 200
Sacramento, CA 95814
916/324-3231

Sandy Hesnard
Caltrans - Division of Aeronautics
P.O. Box 942874
Sacramento, CA 94274-0001
916/324-0761

Ron Helgeson
Caltrans - Planning
P.O. Box 942874
Sacramento, CA 94274-0001
916/445-5570

Dennis O'Bryant
Dept. of Conservation
1416 Ninth Street, Room 1326-2
Sacramento, CA 95814
916/322-5873

Div. of Mines and Geology

Div. of Oil and Gas

Land Resources Protect. Unit

Vashek Cervinka
Dept. of Food and Agriculture
1220 N Street, Room 104
Sacramento, CA 95814
916/322-5227

Douglas Wickizer
Dept. of Forestry
1416 Ninth Street, Room 1516-2
Sacramento, CA 95814
916/322-0128

James Hargrove
Dept. of General Services
400 P Street, Suite 3460
Sacramento, CA 95814
916/324-0209

Alla Wyatt
Dept. of Health
714 P Street, Room 1253
Sacramento, CA 95814
9[illegible]-6523

Sgt. Mike Goshern
California Highway Patrol
Long Range Planning Section
Planning and Analysis Division
P.O. Box 898
Sacramento, CA 95804
916/445-1981

William A. Johnson
Native American Heritage Comm.
915 Capitol Mall, Room 288
Sacramento, CA 95814
916/322-7791

Hans Kreutzberg
Office of Historic
Preservation
P.O. Box 942896
Sacramento, CA 94296-0001
916/322-9621

Mike Doyle
Dept. of Parks and Recreation
P.O. Box 942896
Sacramento, CA 94296-0001
916/324-6421

George Hersh
Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102
415/557-1375 (8-597)

William P. Vaughn, Jr.
Public Works Board
1025 P Street, 4th Floor
Sacramento, CA 95814
916/445-5332

Mel Schwartz
Reclamation Board
1416 Ninth Street Room 204-8
Sacramento, CA 95814
916/445-2458

Norris Milliken
S.F. Bay Conservation & Dev't. Comm.
30 Van Ness Avenue, Room 2011
San Francisco, CA 94102
415/557-3686

Mike Leaon
Calif. Waste Management Board
1020 Ninth Street, Room 300
Sacramento, CA 95814
916/322-2674

Ted Fukushima
State Lands Commission
1807 - 13th Street
Sacramento, CA 95814
916/322-7813

Nadell Gayou
Dept. of Water Resources
1416 Ninth Street, Room 215-4
Sacramento, CA 95814
916/445-7416

Reed Holderman
State Coastal Conservancy
1330 Broadway, Suite 1100
Oakland, CA 946[illegible]
415/4[illegible]

Department of Transportation
District Contacts

Jerry Haynes
Caltrans, District 1
1656 Union Street
Eureka, CA 95501
707/445-6320

Michelle Gallagher
Caltrans, District 2
1657 Riverside Drive
Redding, CA 96001

Brian J. Smith
Caltrans, District 3
703 B Street
Marysville, CA 95901
916/741-4277

Ed Boyle
Caltrans, District 4
P.O. Box 7310
San Francisco, CA 94120
415/557-3405

Jerry Laumer
Caltrans, District 5
P.O. Box 8114
San Luis Obispo, CA 93403-8114
805/549-3161

Nathan Smith
Caltrans, District 6
P.O. Box 12616
Fresno, CA 93778
209/488-4088

Wayne Ballentine
Caltrans, District 7
120 South Spring Street
Los Angeles, CA 90012
213/620-5335

Guy Visbal
Caltrans, District 8
247 West Third Street
San Bernardino, CA 92403
714/383-4557

Tom Dayak
Caltrans, District 9
500 South Main Street
Bishop, CA 94514
619/873-8411

Terri Barrie
Caltrans, District 10
P.O. Box 2048
Stockton, CA 95201
209/948-7112

Jim Cheshire
Caltrans, District 11
P.O. Box 85406
2829 Juan Street
San Diego, CA 92138-5406
714/237-6755

APCD/AQMD: South Coast

Fish and Game - Regional Offices

A. Naylor, Regional Manager
Department of Fish and Game
601 Locust
Redding, CA 96001
916/225-2300

Jim Messersmith, Regional Manager
Department of Fish & Game
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670
916/355-0922

B. Hunter, Regional Manager
Department of Fish and Game
P.O. Box 47
Yountville, CA 94599
707/944-2011

G. Nokes, Regional Manager
Department of Fish and Game
1234 East Shaw Avenue
Fresno, CA 93710
209/222-3761

Fred A. Worthley, Jr., Reg. Manager
Department of Fish and Game
245 West Broadway, Suite 350
Long Beach, CA 90802
213/590-5113

Rolf E. Hall
Marine Resources Region
245 West Broadway, Suite 350
Long Beach, CA 90802
213/590-5155

State Water Resources Control Board

Joan Juranich
State Water Resources Control Board
Division of Clean Water Grants
P.O. Box 100
Sacramento, CA 95801
916/322-3413

Ed Anton
State Water Resources Control Board
Division of Water Quality
P.O. Box 100
Sacramento, CA 95801

Dave Beringer
State Water Resources Control Board
Delta Unit
P.O. Box 2000
Sacramento, CA 95810
916/322-9870

Al Yang
State Water Resources Control Board
Division of Water Rights
901 P Street
Sacramento, CA 95814
916/324-5716

SOUTH COAST AQMD
9150 FLAIR DRIVE
EL MONTE, CA 91731
ATTN: APC OFFICER

Regional Water Quality Control B

NORTH COAST REGION (1)
1440 Guerneville Rd.
Santa Rosa, CA 95401
707/576-2220

SAN FRANCISCO BAY REGION (2)
1111 Jackson Street, Room 6000
Oakland, CA 94607
415/464-1255

CENTRAL COAST REGION (3)
1102-A Laurel Lane
San Luis Obispo, CA 93401
805/549-3147

LOS ANGELES REGION (4)
107 South Broadway, Room 4027
Los Angeles, CA 90012
213/620-4460

CENTRAL VALLEY REGION (5)
3443 Routier Road
Sacramento, CA 95827-3098
916/361-5600

Fresno Branch Office
3374 East Shields Avenue,
Fresno, CA 93726
209/445-5116

Redding Branch Office
100 East Cypress Avenue
Redding, CA 96002
916/225-2045

LAHONTAN REGION (6)
2092 Lake Tahoe Boulevard
P.O. Box 9428
South Lake Tahoe, CA 95731
916/544-3481

Victorville Branch Office
15371 Bonanza Road
Victorville, CA 92392-249
619/245-6583

COLORADO RIVER BASIN REGION (7)
73-271 Highway 111, Suite 21
Palm Desert, CA 92260
619/346-7491

SANTA ANA REGION (8)
6809 Indiana Avenue, Suite 200
Riverside, CA 92506
714/782-4130

SAN DIEGO REGION (9)
9771 Clairemont Mesa Blvd., Sui
San Diego, CA 92124-1331
619/265-5114

South Coast
AIR QUALITY MANAGEMENT DISTRICT
9150 FLAIR DRIVE, EL MONTE, CA 91731 (818) 572-6200

RECEIVED
JAN 25 1988

January 15, 1988

Ms. Sheryl Sanderson
City of Palmdale
712 East Palmdale Blvd.
Palmdale, CA 93550

Dear Ms. Sanderson:

The Planning Division has received your Notice of Preparation for the Draft Environmental Impact Report for your General Plan Update. We would like you to consider including an Air Quality Element in your General Plan.

On June 5, 1987, the South Coast Air Quality Management District's Board adopted a Resolution supporting an Air Quality Element in local jurisdictions' General Plans. Although it is not a required element, we have been working closely with county and city governments to facilitate its inclusion in General Plans.

The SCAQMD has several resources that may be of help to you. These include the Air Quality Handbook for Preparing Environmental Impact Reports, revised April 1987, and technical assistance in determining the air quality impacts associated with land use and traffic circulation. In addition, a supplement to the Air Quality Handbook is scheduled to be available shortly to help local jurisdictions develop and implement an Air Quality Element.

If you need a copy of one of our publications or have any further questions, please contact Erika Nemeth of this Division at (818) 572-2155.

Very truly yours,

Brian W. Farris
Senior Air Quality Specialist
Energy and Environment Section

BWF:EN

STATE OF CALIFORNIA—THE RESOURCES AGENCY

GEORGE DEUKMEJIAN, Governor

DEPARTMENT OF CONSERVATION
DIVISION OF ADMINISTRATION
DIVISION OF MINES AND GEOLOGY
DIVISION OF OIL AND GAS
DIVISION OF RECYCLING

1416 Ninth Street
SACRAMENTO, CA 95814
(916) 322-5873

JAN 05 1988

Ms. Sheryl Sanderson
City of Palmdale
712 East Palmdale Boulevard
Palmdale, CA 93550

Dear Ms. Sanderson:

The Department of Conservation has reviewed the City of Palmdale's Notice of Preparation of a draft Environmental Impact Report (EIR) for the General Plan Update/City of Palmdale Project, SCH #87120908. We have the following comments on both minerals and geologic hazards issues.

Minerals

As you may know, the State Mining and Geology Board transmitted a copy of a report describing the construction aggregate deposits designated as being of regional significance in the Saugus-Newhall and Palmdale Production-Consumption Region in April, 1987. In accordance with the provisions of the Surface Mining and Reclamation Act (SMARA), Section 2762, the City of Palmdale is required to, within twelve months of receipt of such information, establish mineral resource management policies in its General Plan that will recognize the mineral information transmitted by the Board, assist in the management of land use that affects areas of statewide and regional significance, and emphasize the conservation and development of the identified mineral resources. I have enclosed, for your information, a copy of the report, as well as a copy of the Act.

Given that the twelve-month period within which the City must act is rapidly coming to a close, and the City is already undergoing a General Plan update, the Department of Conservation and the State Mining and Geology Board would recommend that the City include the development of mineral resource management policies within the scope of its current project.

Geohazards

The Department's Division of Mines and Geology's Note 46, enclosed, is used as a guide by DMG staff when reviewing Draft EIRs. It contains a checklist of potential environmental impacts related to geology, seismology, and mineral resource conservation, which you should consider in preparing the EIR.

Because of the site's proximity to the San Andreas fault, seismicity and its attendant hazards should be a major consideration in the DEIR. The following references should be useful, among others, in its preparation.

Mintier, J.L. (principal author), 1980, General plan guidelines. Sacramento: Governor's Office of Planning and Research.

Mintier, J.L., and Stromberg, P.A., 1982, Seismic safety at the local level: Does planning make a difference? In E.W. Hart, S.E. Hirschfeld, and S.S. Schultz (editors), Proceedings, Conference on Earthquake Hazards in the Eastern San Francisco Bay Area. Special Publication 62. Sacramento: California Division of Mines and Geology, p. 425-437.

Mintier, J.L., and Stromberg, P.A., 1983, Seismic safety at the local level: Does planning make a difference? California Geology 36, 7: 148-154.

Davis, J.F., and others, 1982, Earthquake planning scenario for a magnitude 8.3 earthquake on the San Andreas fault in southern California: California Division of Mines and Geology Special Publication 60.

If you have any questions regarding these comments, please do not hesitate to contact me at (916) 322-5873.

Sincerely,

Dennis J. O'Bryant
Environmental Program Coordinator

DJO:it
0519H

Enclosures

cc: Zoe McCrea, Division of Mines and Geology
Richard B. Saul, Division of Mines and Geology
Deborah Herrmann, State Mining and Geology Board

COUNTY SANITATION DISTRICTS
OF LOS ANGELES COUNTY

1955 Workman Mill Road / Whittier, California
Mailing Address / P O Box 4998, Whittier, California 90607
Telephone: (213) 699 7411 / From Los Angeles (213) 685-5217

CHARLES W CARRY
Chief Engineer and General Manager

December 23, 1987

File No: 20-00.04-00/87

Ms. Sheryl Sanderson, Associate Planner
City of Palmdale
712 East Palmdale Boulevard
Palmdale, CA 93550

Dear Ms. Sanderson:

General Plan Update

The County Sanitation Districts received a Notice of Preparation of a Draft Environmental Impact Report for the subject project on December 11, 1987. We offer the following comments:

1. The Sanitation Districts maintain facilities within the project area which may be affected. These include

   a. Trunk "A" Sewer;
   b. Trunk "B" Sewer;
   c. Trunk "C" Sewer;
   d. Trunk "D" Sewer;
   e. 5th Street East Trunk Sewer;
   f. 5th Street West Trunk Sewer;
   g. 10th Street East Trunk Sewer;
   h. 10th Street East Connection Trunk Sewer;
   i. 20th Street East Trunk Sewer;
   j. 20th Street East Relief Trunk Sewer;
   k. 25th Street East Trunk Sewer;
   l. 35th Street East Trunk Sewer;
   m. 35th Street East Trunk Sewer, Extension No. 1;
   n. 45th Street East Trunk Sewer;
   o. 56th Street East Trunk Sewer;
   p. Division Street Trunk Sewer;
   q. Outfall Trunk Sewer;
   r. Avenue "P-8" Trunk Sewer;
   s. Avenue "Q" Trunk Sewer;
   t. Avenue "Q" Extension Trunk Sewer; and
   u. Palmdale Water Reclamation Plant

2. The wastewater generated by the proposed project will be treated at the Palmdale Water Reclamation Plant (WRP). Currently, the Districts are planning a 0.9 mgd expansion of the Palmdale WRP which will provide sufficient capacity for the proposed project. The anticipated on-line date of the expanded facilities is March 1988. In addition, subsequent to

the 0.9 mgd expansion, the Districts are planning an expansion of the Palmdale WRP which will meet the future demand upon the District No. 20 sewerage system.

3. The Sanitation Districts are empowered by the California Health and Safety Code to charge a fee for the privilege of connecting to the Sanitation Districts' sewerage system or increasing the existing strength and/or quantity of wastewater attributable to a particular parcel or operation already connected. This connection fee is required to construct an incremental expansion of the sewerage system to accommodate the proposed project which will mitigate the impact of this project on the present sewerage system. Payment of a connection fee will be required before a permit to connect to the sewer is issued.

If you have any further questions, please contact the undersigned at (213) 699-7411, extension 2719.

Very truly yours,

Charles W. Carry

Gary J. Brooks
Project Engineer
Financial Planning &
Property Management Section

GJB:ln

cc: Ms. Cindy Mitton
California Regional Water Quality
Control Board, Lahontan Region

SOUTHERN CALIFORNIA
ASSOCIATION OF GOVERNMENTS
600 South Commonwealth Avenue • Suite 1000 • Los Angeles • California • 90005 • 213/385-1000

December 17, 1987

Ms. Sheryl Sanderson
Associate Planner
City of Palmdale
712 East Palmdale Blvd.
Palmdale, California 93550

RE: General Plan Update
SCAG File No. LA-50895-NPR

Dear Ms. Sanderson:

Thank you for submitting the Notice of Preparation for an Environmental Impact Report (EIR) for the Palmdale General Plan Update. Staff has reviewed the Notice and offers the following comments.

The DEIR should address SCAG plans and policies. For population, housing, and employment forecasts, the document entitled SCAG-82 Modified, adopted in February 1985, is the basis for review for consistency with regional plans and policies. The proposed plan should also be reviewed against the Baseline Projection which was approved, for planning purposes, June 1987. In order to evaluate the relationship of the proposed plan to the forecasts, the EIR should address the following issues:

- What is the growth permitted by the proposed plan as a percent of the growth forecast in SCAG-82 Modified for RSA 10 at the anticipated dates of projects that would implement the plan's recommendations?

- What is the anticipated employment level associated with the proposed plan and how does it relate to the most recent SCAG growth forecasts for RSA 10?

- What is the availability of housing to accommodate the employees in the area, as provided for in the Regional Housing Allocation Model?

- What are the cumulative impacts and growth allowed by the proposed plan and other projects in RSA 10, as related to SCAG-82 Modified for the anticipated dates of completion or phasing of known projects?

- Are the local government provisions of the Regional Air Quality Management Plan, adopted in 1982, being implemented in your jurisdiction? What are the air quality impacts of the proposed plan?

- In evaluating both the transportation and air quality impacts, the DEIR should also provide a detailed description and documentation of the assumptions used in estimating total trips generated and their related vehicular emissions. This information is essential in estimating the proposed plan's impact on traffic in the area. To relieve significant air quality and traffic impacts, the DEIR should include transportation system and demand management programs to encourage the use of mass transit, ridesharing, trip-reduction strategies, etc., in order to reduce these impacts.

- What are the impacts of the proposed plan on water, wastewater treatment, solid and hazardous waste, energy, and school facilities?

Thank you again for the opportunity to comment. SCAG would appreciate the opportunity to review the draft environmental impact report when it is available.

If you have any questions, please contact Tom Brady at (213) 739-6742 or me at (213) 739-6649.

Sincerely,

Richard Spicer

RICHARD SPICER
Principal Planner

RS:TB

i

DEPARTMENT OF
REGIONAL PLANNING
320 West Temple Street
Los Angeles
California 90012
974 6401
Norman Murdoch
Planning Director

January 4, 1988

Sheryl Sanderson
Associate Planner
City of Palmdale
712 East Palmdale Blvd.
Palmdale, California 93550

Dear Madam:

Thank you for informing the County of Palmdale's intention to draft an EIR for your General Plan Update.

At this time, the Impact Analysis Section of the Regional Planning Department has no comments on your initial study, however, we would like to review and comment on your draft EIR.

Sincerely,

DEPARTMENT OF REGIONAL PLANNING
Norman Murdoch, Director of Planning

Frank Kuo, AICP
Supervising Regional Planner, Section Head
Impact Analysis Section

FK:mhb

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (818) 458-5100

THOMAS A. TIDEMANSON, Director

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

March 8, 1988

IN REPLY PLEASE REFER TO FILE W-0
H. F. Roediger
(805) 942-1157

Ms. Sheryl Sanderson
Associate Planner
City of Palmdale
708 East Palmdale Boulevard
Palmdale, California 93550

Dear Ms. Sanderson:

LOS ANGELES COUNTY WATERWORKS DISTRICT NO. 34, DESERT VIEW HIGHLANDS
PREPARATION OF AN ENVIRONMENTAL IMPACT FOR THE GENERAL PLAN UPDATE
CITY OF PALMDALE

This is in response to your request for the Waterworks District's comments to the subject Environmental Impact Report.

It is somewhat difficult for the District to accurately ascertain what impact the project would have, since a project such as a "General Plan Update" is generic in nature. Actually, that impact would be contingent upon proposed developments within the District's boundaries. As you know, the District's existing water system and proposed improvements are not designed for additional projects.

Once we receive specific development plans and Fire Department's requirements for projects within the subject area, we can then state our requirements and make our proposals of what facilities must be installed to project water service.

At this time, we can only state that the proposed General Plan Update could conceivably have a significant impact on the District. If you have any questions on this matter, please contact Mr. Henry Roediger or Mrs. Janyce Jenks at our Lancaster Office, at (805) 942-1157.

Very truly yours,

T. A. TIDEMANSON
Director of Public Works

Robert L. Larson

Robert L. Larson
Assistant Deputy Director
Waterworks and Sewer Maintenance Division

HFR:ne(WW8526)

COUNTY OF LOS ANGELES

FIRE DEPARTMENT

1320 NORTH EASTERN AVENUE
LOS ANGELES, CALIFORNIA 90063

(213) 267-2481

P. MICHAEL FREEMAN
FIRE CHIEF
FORESTER & FIRE WARDEN

MAR 30 1990

March 22, 1990

Susanne Mindell
Michael Brandman Associates
606 South Olive Street, Suite 600
Los Angeles, CA 90014

Dear Ms. Mindell:

**SUBJECT: ENVIRONMENTAL IMPACT REPORT -- (PALMDALE)
PALMDALE MASTER ENVIRONMENTAL ANALYSIS
QUESTIONNAIRE**

The following items have been or should be analyzed in the Environmental Impact Report:

1. Oak Tree Removal Permit.
2. Rare and/or endangered plants and animals.
3. Soil erosion potential and mitigation.

If you have additional questions, please contact this office at the phone number shown above.

Very truly yours,

P. MICHAEL FREEMAN

Joseph Ferrara

BY
JOSEPH FERRARA, CHIEF, FORESTRY DIVISION
PREVENTION AND CONSERVATION BUREAU

JF:jmb

Appendix D

General Plan Goals, Objectives, and Policies

SECTION 2: GOALS, OBJECTIVES AND POLICIES

GOAL L1: CREATE A VISION FOR LONG-TERM GROWTH AND DEVELOPMENT IN THE CITY OF PALMDALE WHICH PROVIDES FOR ORDERLY, FUNCTIONAL PATTERNS OF LAND USES WITHIN URBAN AREAS, A UNIFIED AND COHERENT URBAN FORM, AND A HIGH QUALITY OF LIFE FOR ITS RESIDENTS.

Objective L1.1: Establish a blueprint for the physical form and development of the City.

Policy L1.1.1: Through adoption of the Land Use Map, direct future growth to areas which can accommodate development based upon topography, environmental factors, availability of infrastructure, and/or comprehensive planning. These areas include the following:

a. Vacant land within urbanized areas (infill lots), where backbone infrastructure is available or planned for;

b. Areas governed by adopted Specific Plans;

c. Areas in which infrastructure master planning has occurred.

Policy L1.1.2: Provide incentives to promote infill development, in order to foster more cohesive neighborhoods, maximize use of infrastructure, consolidate development patterns and enhance community appearance.

Policy L1.1.3: Respond to the rapidly changing needs of the City by reviewing the General Plan every five to seven years, and updating each Element as needed.

Policy L1.1.4: In considering requests to amend the Land Use Map, discourage proposals for development requiring urban services in those areas which are functionally separated from developed portions of the City by lack of infrastructure, expanses of vacant land, significant topographic or jurisdictional barriers, or other similar constraints.

Objective L1.2: Adopt annexation policies that promote logical and orderly boundaries, respond to community concerns, and minimize fiscal impacts to the City.

Policy L1.2.1: Focus planning efforts within the present sphere of influence during the planning period.

Policy L1.2.2: Seek to negotiate equitable property tax transfers with the County of Los Angeles for areas proposed for annexation, to ensure cost recovery to the City for increased municipal services to these areas.

Policy L1.2.3: Pursue incorporation of County islands into the City, if supported by residents within these areas.

Policy L1.2.4: Evaluate and consider costs of annexation to the City, including those costs associated with service provision and upgrades to existing infrastructure, in annexation decisions.

Policy L1.2.5: Consider the provisions of adopted Memorandums of Understanding in establishing land use regulations for areas to be annexed.

Policy L1.2.6: Encourage Los Angeles County to apply City of Palmdale land use policies and standards to development proposals within the City's sphere of influence.

Objective L1.3: Ensure compatibility between land uses which have different functions, requirements and impacts.

Policy L1.3.1: On the Land Use Map, designate land uses in consideration of topography, environmental constraints, availability of infrastructure, and intensity of adjacent uses.

Policy L1.3.2: Adopt standards for transition areas between potentially incompatible uses.

Policy L1.3.3: Through the development review process, evaluate proposals with respect to their impacts on adjacent properties and require that project designs employ appropriate techniques to increase compatibility between uses.

Objective L1.4: Adopt land use policies which minimize exposure of residents to natural hazards, protect natural resources, and utilize land with limited development potential for open space and recreational uses where feasible.

Policy L1.4.1: Establish the following transitional standards between Mineral Resource Extraction designations and less intensive uses, in order to protect residents from noise and dust while preserving the availability of mineral resources:

a. Where feasible, encourage a transition of uses between quarry operations and less intensive uses.

b. Separate residential neighborhoods from mineral extraction zones by public streets, setbacks, berms, landscaping, green belts, trail systems, or other similar buffers or combinations thereof.

c. When residentially-designated land abuts mineral extraction areas, the responsibility for providing adequate buffers should be borne equitably by both quarry operators and residential

developers, where feasible based upon existing conditions and existing approvals.

Policy L1.4.2: Establish the following standards in and adjacent to Alquist-Priolo Special Studies zones and active fault zones, in order to protect residents, property and infrastructure systems from damage by seismic activity:

a. Restrict development of habitable structures in these zones in accordance with requirements of State law.

b. Establish a maximum permitted density within all land between the outer boundaries of the Alquist-Priolo Special Studies Zone of three (3) dwelling units per acre, except where the Land Use Map indicates lower densities in these areas.

c. Require placement of roads, utilities and other infrastructure to be located outside of active fault zones, where feasible.

Policy L1.4.3: Establish the following standards for development in hillside areas:

a. Development in hillside areas should minimize grading, conform to natural topography, preserve ridgelines and exhibit sensitivity to natural landforms.

b. Development should be restricted on natural slopes of fifty percent and greater.

c. Visually prominent ridges and hillsides should be retained in a natural condition.

d. Flexibility in land use regulations may be permitted when it can be demonstrated that such flexibility will meet hillside management objectives.

Policy L1.4.4: Establish the following land use policies adjacent to airport uses:

a. On the Land Use Plan, designate uses adjacent to airport uses which minimize land use conflicts with future expansion of airport operations.

b. When considering land use proposals adjacent to airport uses, evaluate such proposals with respect to the policies developed by the Joint Land Use Committee which have been incorporated into the Noise and Safety Elements.

Objective L1.5: Identify areas within the City which, through deterioration of structures, high vacancy rates, vandalism, or health and safety concerns, merit special attention, and develop programs to revitalize these areas.

Policy L1.5.1: Develop a coordinated effort between City departments and agencies administering the municipal, zoning and building codes, law enforcement, fire prevention, public health, housing and social services, to upgrade blighted areas within the City.

GOAL L2: ADOPT LAND USE AND DEVELOPMENT POLICIES WHICH ENCOURAGE GROWTH AND DIVERSIFICATION OF THE CITY'S ECONOMIC BASE.

Objective L2.1: Promote creation and retention of businesses within the City, to increase employment opportunities within the Antelope Valley.

Policy L2.1.1: Promote establishment of incentives for new industrial development in Palmdale through all available programs, including local, state and federal programs.

Policy L2.1.2: Adopt comprehensive land use documents to designate areas for business and industrial users, such as specific plans, which will simplify environmental and development review processes for new businesses and ensure coordinated infrastructure planning.

Policy L2.1.3: Adopt strategies to provide opportunities for a wide range of business needs, including start up, expansion, and relocation.

Policy L2.1.4: Cooperate with local financial institutions through the Community Reinvestment Act to facilitate establishment and retention of new businesses in Palmdale.

Policy L2.1.5: Promote opportunities for transportation-related industries which utilize air, rail and highway facilities, specifically with respect to freight transfer and distribution facilities.

Policy L2.1.6: Consider the jobs/housing balance in evaluating new development proposals.

Policy L2.1.7: Support new technologies which may result in increased business opportunities within the City.

Policy L2.1.8: Support creation and adoption of a separate air quality management plan for the Southeast Desert Air Basin portion of the South Coast Air Quality Management District.

Objective L2.2: Provide assistance to business owners and users through all available means, including education, outreach, coordination and financing.

Policy L2.2.1: Make information available to business owners on demographic and economic conditions and current development within the City, to assist them in making business decisions.

Policy L2.2.2: Work towards establishment of a geographic information data base and mapping system within the City to increase the amount of information available to the public on zoning, land use and infrastructure planning, assessments, and other pertinent data.

Policy L2.2.3: Provide assistance through public financing and reimbursement programs, where feasible and appropriate, to support construction of infrastructure needed for new commercial and industrial uses.

Policy L2.2.4: Expedite and simplify permit processing to the extent feasible, and provide individualized assistance to persons requesting help with City procedures and permit processes.

Policy L2.2.5: Maintain frequent and open communication between representatives of the business community and of the City, to share ideas and resources on promoting economic development in Palmdale.

Policy L2.2.6: Provide public information materials on City programs and processes to assist business owners, participate in public forums on business issues, and utilize City newsletters and other means to address business needs for information.

Objective L2.3: Revitalize the core area of Palmdale so as to maintain and enhance its economic viability.

Policy L2.3.1: Based upon existing development patterns within the core area of Palmdale, designate a special development area generally bounded by Avenue Q, Division Street, Avenue R and 22nd Street East. Within this area, promote economic development through a variety of means including but not limited to the following:

a. Promote reduction of vacancy rates in existing structures by adopting development standards consistent with those used when the area was constructed, which may include but not be limited to parking, setback, landscaping and architectural requirements.

b. Encourage infill development on vacant lots within this area through provision of incentives.

c. Establish sign criteria appropriate for the density of development within this area.

d. Promote development of municipal and administrative functions within the Civic Center area, to provide a focus for downtown businesses.

e. Promote establishment of a transportation facility within the downtown area, serving as a hub for rail, bus and other public transportation systems.

f. Promote outdoor activities within the downtown area to increase the number of people attracted to the area.

g. Support the rerouting of State Highway 138 to the vicinity of Avenue P-8, so as to remove regional through traffic from downtown streets.

h. Through a coordinated effort of all affected agencies, address areas requiring special attention to prevent blight in the downtown area.

i. Promote shared parking to serve existing businesses and minimize the amount of land in the downtown area devoted to vehicle storage in proportion to that utilized for active businesses.

Objective L2.4: Address the special needs of existing developed or partially developed areas which are in transition from one predominant land use to another, so as to maintain their usefulness and viability during this transition period.

Policy L2.4.1: On the Land Use Map, establish a "Mixed Use--Transitional" (MT) designation for areas which have been developed with a variety of commercial, residential and/or industrial uses and structures, and where designation for long-range development in one specific land use category will render existing uses and structures unusable, thus increasing vacancies and resulting adverse economic impacts. This designation is described as follows:

a. **Mixed Use Transitional**: The application of "Mixed Use Transitional" will modify the base land use designation. The MT modifier is intended for areas which are already developed with a predominant land use type but which are in transition to a different land use. This designation is appropriate at the edge of use areas where there is expansion or encroachment of a new use type into an area established with older noncompatible uses, and in which such expansion of the new use meets the long-range goals and objectives of the City's General Plan. This designation is intended to allow the transition of new uses in an orderly fashion while not rendering existing structures in the area unusable. A typical designation of this use type would occur where commercial uses in the downtown core area have expanded into existing single family structures in adjacent older neighborhoods, but in which residential use is still occurring. This designation is not appropriate in areas which are predominantly vacant. The purpose of this district is to minimize

land use conflicts between various use types during transitional periods, while preserving ongoing economic viability for existing uses.

Policy L2.4.2: Develop specific development standards for Mixed Use--Transitional areas within the Zoning Ordinance to minimize land use conflicts inherent with mixed use areas and to encourage an orderly transition of uses.

GOAL L3: PROVIDE A HIGH QUALITY OF LIFE FOR ALL EXISTING AND FUTURE RESIDENTS, MEETING THE NEEDS OF A VARIETY OF LIFESTYLES.

Objective L3.1: Provide for the distribution of residential densities and housing types to meet the varied lifestyles and needs of existing and future City residents.

Policy L3.1.1: On the Land Use Map, establish residential land use designations for a range of residential densities as follows:

a. **Equestrian Residential**: The Equestrian Residential (ER) designation is intended for single family residential uses at a maximum gross density of .40 du/ac (1 unit per 2½ acres), yielding an estimated population of 800 persons per square mile. Equestrian and related animal keeping activities are permitted within this designation. The character of areas within this designation will be rural in nature with parcel sizes of 2½ acres or larger. Clustering to preserve significant natural landforms is feasible, although where this designation is located in established rural neighborhoods on level terrain, clustering may not be acceptable. Full urban services such as community water and sewer may not be available to these areas, and public improvements may be constructed to rural standards where permitted. Densities within this designation may decrease pursuant to slope density ratios established in the Hillside Management Ordinance. Actual permitted density will be determined through the development review process, based on applicable environmental and infrastructural conditions.

b. **Low Density Residential**: The Low Density Residential (LDR) designation is intended for single family residential uses at a maximum gross density of 1 dwelling unit per acre with an estimated population of 1600 per square mile. The Low Density designation is appropriate to hillside areas and as a transition between rural and suburban areas. It is generally expected that urban services such as community sewer and water will be provided to new development proposed within this designation, although rural street and lighting standards may be appropriate to some projects. Minimum lot size within this designation will generally be one (1) acre or larger, although clustering may be permitted to encourage preservation of natural resources and steep slopes. Densities within this designation may decrease pursuant to the slope density ratios established in

the Hillside Management Ordinance. Actual permitted density will be based on applicable environmental and infrastructural conditions.

c. **Single Family Residential-1 (0-2 du/ac)**: The Single Family Residential-1 (SFR-1) designation is intended for single family residential uses with gross densities ranging from 0-2 du/ac and an estimated population of 3,600 persons per square mile. Net lot sizes will generally be one half acre or larger, creating a semi-rural environment with horse/animal keeping possible. This designation may be utilized in lower hillside areas where inclines are present but topography is lacking significant slope constraints. It may also be utilized in outlying valley areas where large lot subdivisions are desired. Full urban services are expected in these areas, although larger lot subdivisions may develop with rural street and lighting standards as determined by the City. Clustering may be permitted to preserve steep hillsides and significant physical features. Densities within this designation may decrease pursuant to slope density ratios establishing in the Hillside Management Ordinance. Actual permitted density will be based on site specific environmental and infrastructural conditions.

d. **Single Family Residential-2 (0-3 du/ac)**: The Single Family Residential-2 (SFR-2) designation is intended for single family residential uses with gross densities ranging from 0-2 du/ac and an estimated population of 5,600 persons per square mile. Net lot sizes will generally be 10,000 square feet or larger, although clustering may be permitted to preserve steeper terrain or significant physical features. This designation is appropriate in those areas between the valley floor and steeper hillside areas (generally having less than ten percent slope). Full urban services will be required in new development areas. Densities within this designation may decrease pursuant to slope density ratios established in the Hillside Management Ordinance. Actual permitted density will be based on site specific environmental and infrastructural conditions.

e. **Single Family Residential-3 (3.1 - 6 du/ac)**: The Single Family Residential-3 (SFR-3) designation is intended for single family residential uses with gross densities ranging from 3.1-6 du/ac and an estimated population of 9,700 persons per square mile. Subdivisions containing the City's standard 7,000 square foot minimum lot size will typically be located within this designation. Densities under this designation may decrease pursuant to the slope density ratios established in the Hillside Management Ordinance. Actual permitted density will be based on site specific environmental and physical constraints.

f. **Multi-family Residential**: The Multi-family Residential (MFR 6.1-16) designation is intended for residential uses with densities ranging from 6-16 du/ac and an estimated population of 26,000

persons per square mile. Housing types may include a variety of attached and detached dwelling unit types, as permitted by the underlying zone. Actual density permitted will be based on site specific environmental and infrastructural conditions.

Objective L3.2: Adopt policies for residential uses within the City to enhance the quality of residential neighborhoods.

Policy L3.2.1: Permit a range of residential densities and housing types throughout the City, rather than concentrating higher densities in limited areas.

Policy L3.2.2: Direct the location of senior and multifamily housing to areas accessible to public transportation, supportive commercial uses, and community facilities.

Policy L3.2.3: Maintain the useability of residential yard areas through development of standards for accessory structures in residential districts, and through exclusion of required landscape easements from calculation of required lot area.

Policy L3.2.4: Maintain 7,000 square feet as the minimum lot size standard for single family residential subdivisions; permit flexibility from this standard in conjunction with approval of a comprehensive planning document such as a specific plan or planned residential development.

Policy L3.2.5: Preserve the viability and value of existing multiple family neighborhoods by considering the long-term impacts of proposed condominium conversions on residents as well as on adjacent properties, and develop standards and criteria to guide decisions on proposed conversions.

Objective L3.3: Protect existing mobile home parks as an affordable housing alternative, and provide opportunities for development of new mobile home or manufactured housing communities.

Policy L3.3.1: Permit establishment of parks and subdivisions utilizing mobile homes or manufactured housing within all residential zones, if the density is in conformance with the applicable General Plan residential density range, subject to the regulations of the underlying zone.

Policy L3.3.2: Encourage the development of mobile home or manufactured housing subdivisions as opposed to land lease parks, in order to provide affordable housing alternatives which provide increased financial security to residents.

Policy L3.3.3: Minimize potential impacts of mobile home park conversions on park tenants and on the City's affordable housing supply, by establishing standards and procedures for proposed mobile home park conversions.

Objective L3.4: Consider underlying topography, existing parcelization, existing land uses, infrastructure availability, and relationship between uses in designating and developing residential land uses.

Policy L3.4.1: Encourage flexible siting and design techniques and density transfers in hillside or physically constrained areas to preserve steep slopes or unique physical features.

Policy L3.4.2: Adopt rural design standards in areas where minimum net lot size is 40,000 square feet or larger.

Policy L3.4.3: Avoid designating land for higher density uses where prevailing existing parcel sizes are one (1) acre or larger.

Policy L3.4.4: Encourage subdivision design techniques that reflects underlying physical topography. Density and intensity of development should decrease as slope steepness increases.

Policy L3.4.5: When residential development is proposed outside the urban core, where urban infrastructure does not exist and no plans exist for provision of backbone infrastructure, require the preparation and approval of comprehensive planning documents such as specific plans, area plans and master facilities studies to assess the project's needs and impacts.

Objective L3.5: Ensure that future residential development provides an attractive living environment and creates long-term value for residents as well as the community.

Policy L3.5.1: Adopt design standards for multifamily development which will create a safe, convenient, attractive environment with public or private open space and recreational on-site amenities.

Policy L3.5.2: Adopt standards for the design of single family subdivisions that will ensure functional integration with existing development, community facilities and supportive services.

Policy L3.5.3: Consider intensity as well as density of development in evaluating residential projects; building mass and coverage should be proportional to the size of parcel being developed.

Policy L3.5.4: Require mobile home parks and subdivisions to provide sufficient open space and recreational amenities to

adequately serve their residents and assure consistency with surrounding development.

Objective L3.6: Maintain the integrity, safety, and attractiveness of existing residential neighborhoods.

Policy L3.6.1: Actively pursue compliance with applicable codes and ordinances to ensure public safety and maintenance of residential areas.

Policy L3.6.2: Promote development of pro-active property maintenance and community appearance programs including greater emphasis on volunteer efforts.

Policy L3.6.3: Support community groups and homeowners associations to assist in community maintenance programs.

Policy L3.6.4: Develop design and landscaping standards to encourage safety and visibility and discourage illicit activities such as graffiti in residential neighborhoods.

GOAL L4: PROVIDE OPPORTUNITIES FOR A WIDE RANGE OF RETAIL AND SERVICE COMMERCIAL USES, TO SERVE NEIGHBORHOOD, COMMUNITY AND REGIONAL NEEDS AND PROVIDE ECONOMIC BENEFIT TO THE CITY OF PALMDALE.

Objective L4.1: Provide sufficient land to accommodate a variety of commercial land uses to meet community needs.

Policy L4.1.1: On the Land Use Map, establish land use designations to meet the City's long-term commercial needs, as follows:

a. **Office Commercial**: The Office Commercial (OC) designation is designed to accomodate a variety of professional office uses, including medical, personal, business, legal, insurance, real estate, financial, and other similar uses. Limited retail, service, child care and eating establishments may be permitted to support the primary office users within this designation, provided that they function as a supportive use and do not detract from the stated intent of this designation. Vocational, technical and trade schools, private or public college or universities, and supportive commercial uses may be consistent with this designation, provided that land use compatibility and infrastructure are adequately addressed through the design review process. This designation is appropriate between more intensive commercial uses and residential designations, or within commercial areas serving the administrative and professional service needs of businesses and the general public. The maximum floor area ratio within this designation is 1.0.

b. **Neighborhood Commercial**: The Neighborhood Commercial (NC) designation provides for convenience type retail and service activities designed to serve the daily needs of the immediate neighborhood. Goods and services provided serve the short-term

needs of local residents. Typical neighborhood commercial development is located on sites of 15 acres or less with a maximum floor area ratio of .50. Site and building designs for neighborhood commercial development should be sensitive to adjacent residential uses. Buffering should be both effective and aesthetic with site design emphasizing both automobile and pedestrian needs.

c. **Community Commercial**: The Community Commercial (CC) designation is intended for businesses providing retail and service uses which primarily serve the local market. Representative uses include restaurants, apparel stores, hardware stores, grocery markets, banks, offices, and similar uses. Goods and services intended to meet both short and long term shopping needs of City residents should be targeted for these areas. A typical community commercial development contains 5 to 20 acres with a maximum floor area ratio of 1.0. Community commercial uses should have access from arterial streets, and should incorporate design measures to minimize adverse impacts to the capacity of adjacent arterial streets and to adjacent less intensive land uses.

d. **Regional Commercial**: The Regional Commercial (RC) designation is designed to accommodate retail and service uses attracting consumers from a regional market area, extending beyond the local metropolitan area. Representative uses include department stores, regional shopping malls, automobile dealerships, hotel/motels, and large retail outlets. Regional commercial uses should be accessible via major arterial streets or freeways. Total development area within regional commercial designations typically ranges from 40 to 100 acres or more with a maximum floor area ratio of 1.0. Site design of regional centers should consider pedestrian needs and internal circulation that minimizes impacts on adjacent arterials.

Objective L4.2: Adopt policies for siting and development of commercial land uses which ensure that designs are efficient, functional, and attractive to users and adjacent properties.

Policy L4.2.1: Encourage development of commercial uses in nodes accessible from major streets and intersections, rather than in long, continuous strips.

Policy L4.2.2: Space commercial nodes at appropriate intervals to serve surrounding neighborhoods while avoiding strip commercial development. Typical spacing would be at one-half mile or greater intervals.

Policy L4.2.3: Avoid overdesignating commercial land uses, in order to maintain the value of existing commercial designations and avoid high vacancy rates.

Policy L4.2.4: Develop and permit uses that promote the City's role as a center of regional retail commercial uses.

Policy L4.2.5: Discourage future strip commercial development along Palmdale Boulevard. Consider the designation of less intensive uses such as professional offices or residential with non-Palmdale Boulevard access points.

Policy L4.2.6: Encourage lot consolidation and shared parking and driveways in areas of small existing parcel sizes.

Policy L4.2.7: Consider future commercial land use needs on the City's far west side and designate additional commercial land as deemed appropriate to serve west side residents.

Policy L4.2.8: Establish site specific siting criteria for commercial land uses as set forth below:

a. Commercial development should be located in areas free from major topographic variation; typically, sites should slope six percent or less.

b. Commercial uses should be located and designed in such a way as to minimize interface conflicts with existing and planned residential neighborhood.

c. Commercial sites should have a high level of visibility from public streets.

Policy L4.2.9: Avoid designating land for commercial uses simply because residential uses appear inappropriate. Consider other alternatives, including but not limited to the following:

a. Creating an environment suitable for residential uses by employing design techniques to minimize noise/traffic impacts such as sound walls, landscaped setbacks, frontage roads, use of drainage basins, linear parks, greenbelts and trail systems to buffer dwelling units from major transportation corridors.

b. Considering alterative uses such as industrial, open space, public facilities, or commercial office.

Policy L4.2.10: Develop standards for location and operation of convenience stores and other 24-hour business to minimize impacts on residential neighborhoods.

Policy L4.2.11: Establish design criteria for neighborhood shopping centers that promote pedestrian elements and design integration with surrounding residential uses.

Policy L4.2.12: Ensure that impacts from adult entertainment and sexually oriented businesses are minimized by providing sufficient separation from residential neighborhoods, churches, schools, and other sensitive uses.

Policy L4.2.13: Develop standards to ensure that development of all commercial buildings within a center are designed to be consistent with an overall design theme, utilizing unifying architectural styles, colors and material schemes, integrated pedestrian walkways, and similar measures.

Policy L4.2.14: Adopt standards for parking lot landscaping to enhance aesthetic appeal and to provide a tree canopy for vehicular shading.

GOAL L5: PROVIDE OPPORTUNITIES FOR A WIDE RANGE OF MANUFACTURING AND RELATED INDUSTRIAL USES IN THE CITY, SO AS TO FACILITATE EXPANSION AND DIVERSIFICATION OF THE CITY'S ECONOMIC BASE AND PROVIDE ADDITIONAL EMPLOYMENT OPPORTUNITIES.

Objective 5.1: Provide sufficient land to accommodate a wide variety of industrial uses to meet community needs.

Policy L5.1.1: On the Land Use Map, establish designations to meet the City's long-term industrial and manufacturing needs, as follows:

a. **Commercial Manufacturing**: The Commercial Manufacturing (CM) designation is intended to permit mixed use development of lighter industrial uses and the more intensive service, retail and wholesale commercial uses. Research and development, distribution, manufacturing and wholesale or retail sale of industrial supplies, transportation equipment, building equipment and materials, and similar uses are allowed in this designation. In addition, supportive commercial uses such as restaurants or convenience markets, which serve consumers within the industrial/commercial area, may be allowed. However, the CM designation is not intended for general commercial uses, either of a retail or service nature, which will attract non-industrial users and vehicular traffic into the area. The CM district is appropriate in areas having or planned to have adequate sewer, water, transportation, drainage, utilities and public services available to meet anticipated needs of this type of development. The designation may be used as a transitional use between more intensive industrial uses and less intensive commercial uses. Maximum floor area ratio in this district is 0.5.

b. **Business Park**: The Business Park (BP) designation is intended to permit a variety of office, research and development, light assembly and fabrication, and supportive commercial uses within an environment characterized by master-planned complexes maintaining a high quality of design and construction.

Development in this designation is expected to provide enhanced landscaping and outdoor amenities to create a campus setting. Operations and storage activities are to be confined to enclosed buildings. This designation is appropriate in locations with good access and visibility from the freeway and major arterials. Site areas should be large enough to accommodate comprehensive planning, and adjacent business park developments should be designed to promote cohesive and compatible development. Maximum floor area ratio is 0.5.

c. **Industrial**: The Industrial (IND) designation is intended to permit a variety of industrial uses, including the manufacturing and assembly of products and goods, warehousing, distribution, and similar uses. Some limited commercial uses which are incidental to and supportive of the primary industrial uses may also be permitted. This designation permits the most intensive types of manufacturing and industrial uses, subject to the height, coverage and development regulations of the underlying zone district. The Industrial designation is appropriate in areas having or planned to have adequate sewer, water, transportation, drainage, utilities and public services available to meet anticipated needs of this type of development. Where possible, industrial designations should be separated from residential areas by natural or manmade barriers, such as major arterials, utility easements, drainage courses or railroad rights of way. Adequate land use and design standards to mitigate impacts from intense uses in this designation will be addressed through the zone districts and design review process. Maximum floor area ratio within this designation is 0.5.

d. **Airfield and Related Use**: The Airfield and Related Use (A & R) designation is intended to permit public and private airfields and support facilities, aerospace related industries, transportation related industries, and commercial facilities necessary to support military and commercial air traffic. This designation will primarily apply to U.S. Air Force Plant 42 and the Palmdale Regional Airport site as designated by the City of Los Angeles Department of Airports. Future development within this designation will be required to employ appropriate performance standards and design features to minimize impacts on nearby residential neighborhoods. Maximum floor area ratio within this designation is 0.5.

e. **Mineral Resource Extraction**: The Mineral Resource Extraction (MRE) designation is intended to permit extraction and processing of mineral resources , including sand, gravel and decomposed granite. Activities consistent with this designation include mining, crushing and sales of mineral products; asphalt and concrete batching are permitted as regulated by the underlying zone district. This designation is appropriate in areas designated by

the State Division of Mines and Geology as Mineral Resource Zone 2 areas, or where significant mineral resources occur the extraction of which is determined to be beneficial. Operations within this designation are subject to all applicable policies, ordinances and laws regulating traffic impacts, air and water quality, and land use compatibility. Maximum floor area ratio within this designation is 0.25.

Objective L5.2: Adopt policies for siting and development of industrial land uses which ensure that designs are efficient, functional, and attractive to users and adjacent properties.

Policy L5.2.1: Discourage encroachment of incompatible uses into or adjacent to designated industrial land, when it can be shown that such uses may ultimately impede development of industrial uses, and that such uses may be established elsewhere in the planning area.

Policy L5.2.2: Assure compatibility of industrial development with adjacent uses, through the following measures:

a. Adopt development standards for industrial uses, to ensure compatibility with adjacent uses and aesthetically pleasing views from adjacent rights-of-way, including but not limited to standards for screening of outdoor storage, locations of loading and refuse disposal areas, height, bulk, impervious surface area, architectural enhancement, landscaping, and other measures as deemed appropriate.

b. Designate areas of less intensive uses between heavy industrial uses and less intensive business or residential designations.

Policy L5.2.3: Encourage master planning within industrial areas to ensure adequate and comprehensive provision of infrastructure and efficient, attractive designs, through use of specific plans and equivalent planning documents.

Policy L5.2.4: Ensure effective utilization of industrial land resources by avoiding creation of small lot subdivisions in excess of the number of small industrial lots needed to meet community requirements.

Policy L5.2.5: Designate land and adopt development standards so as to provide an appropriate mix of industrial uses, including labor intensive, light manufacturing, warehousing, and spaces for small shop industries.

Policy L5.2.6: Designate industrial uses only within areas of the City without significant topographic constraints, and preclude industrial uses in hillside areas.

Policy L5.2.7: Adopt performance standards for noise, odors, emissions, vibrations, glare, radiation, and other potential impacts of industrial development.

GOAL L6: PLAN FOR AND RESERVE LAND TO ACCOMMODATE USES NEEDED FOR PUBLIC BENEFIT, INCLUDING OPEN SPACE, RECREATION, PUBLIC IMPROVEMENTS, SCHOOLS AND COMMUNITY FACILITIES.

Objective L6.1: Ensure that adequate land is available for uses serving or providing benefit to the general public.

Policy L6.1.1: On the Land Use Map, designate land for public uses to meet community needs for schools, parks, community facilities, open space, utilities, and infrastructure. The following land use designations have been established on the land use map to meet these needs.

a. **Open Space**: The Open Space (OS) designation is intended to identify and reserve land for both natural and active open space uses, including City parks. The designation identifies existing and acquired but not yet built park sites within the community, as well as lands dedicated to the City for open space purposes. The designation is appropriate to protect sites with physical limitations such as flood plains, very steep terrain (slopes steeper than 50 percent), or significant natural resources. Typical uses permitted within the open space designation include recreational uses, horticulture, agriculture, animal grazing or similar uses.

b. **Public Facilities**: The Public Facilities (PF) designation identifies land which is or will be utilized for various types of public facilities, including but not limited to schools, libraries, hospitals, public safety and governmental facilities, sewer and water treatment plants, and landfills. Existing or acquired public facility sites are designated PF on the land use map; however, public facilities may be allowed in other land use designations as established by the underlying zoning. Within the PF designation, uses are specifically identified by use type on the land use map. The maximum floor area designation within this designation is 1.0.

Objective L6.2: Adopt development standards for public uses to ensure compatibility with adjacent properties, minimize adverse impacts and maintain a high standard of quality for development within the City.

Policy L6.2.1: Consider acceptance of natural open space dedications to the City if such dedication is consistent with City plans for an open space/greenbelt network. Lands proposed for dedication which lack potential for linkage with an overall system or lack valuable natural resources may not be suitable for acceptance by the City.

Policy L6.2.2: Provide a 1000 foot buffer between the Antelope Valley landfill and future residential developments.

GOAL L7: Provide proactive comprehensive planning within designated areas of the City where unique development opportunities or physical conditions warrant special planning efforts.

Objective L7.1: Identify areas within the City which merit special planning considerations and develop policies containing development criteria for these areas.

Policy L7.1.1: Ensure that development within the area between Lake Palmdale and the Antelope Valley Freeway is complimentary to the lake viewshed and consistent with sound water quality management practices by following the development criteria listed below:

a. Limit building heights to a maximum of 20 feet as measured from the highest adjacent grade.

b. Require a minimum 100 foot setback from the historical high water mark of Lake Palmdale.

c. Require that proposed buildings incorporate design elements including the limitation of building widths, to minimize viewshed impacts.

d. Design storm and other drainage structures to convey storm and nuisance water away from Lake Palmdale. No conveyance will be allowed into Lake Palmdale.

e. The area shall be served by a sanitary sewer system. No septic systems will be allowed.

f. Underground storage of petroleum or similar products which pose a threat to lake contamination shall be prohibited.

g. Rear and side elevations should contain similar elements of the front elevation, ensuring that buildings within the area maintain a cohesive, unified appearance on all sides.

h. Loading and refuse containment areas must be screened from public view utilizing architectural elements consistent with overall building design.

i. Completely screen all mechanical and rooftop equipment from view from S.R. 14 and Avenue S. Roof top equipment screening shall be accomplished through architectural means compatible with the building design.

j. Require view studies to fully evaluate adequacy of equipment screening and building impacts on viewshed. Renderings for such

studies should show landscaping at introduction as well as a maturity.

k. Utilize landscaping to soften building mass and parking areas without impending views.

l. Utilize earth tone colors for building and roof materials to blend with natural setting to the maximum extent feasible.

m. Prohibit use of sound walls as a method for acoustical mitigation of building interiors. Noise mitigation shall be accomplished through proper site planning and the use of appropriate building and construction techniques.

n. Require conditional use permit or equivalent entitlement for all development within the subject area.

Policy L7.1.2: Ensure that development adjacent to the intersection of Pearblossom Highway and Sierra Highway provides for proper integration of differing land uses, establishes development patterns that maintain an aesthetically pleasing entrance to the City, and minimizes grading in steep terrain as set forth in the following criteria:

a. General

1. Areawide circulation and infrastructure plans shall be prepared for the entire overlay area prior to approval of any development other than a single family residence on an existing lot. Said plans must consider provision and extension of sewer, water, and storm drainage, streets and highways, and public services.

b. Low Density Residential

1. In the event grade differentials preclude other access options, primary access to the residential area from Pearblossom Highway may be permitted through the business park area.

2. Ensure that grading for residential subdivisions respects the natural contours and retains natural topography to the maximum extent feasible.

c. Business Park

1. Primary access to the business park shall not be permitted through residential areas.

2. Minimize the development of a "canyon" effect along Pearblossom Highway and impacts to adjacent residential uses by establishing setback and height limitations as specified by appropriate zoning districts and entitlement permit review.

3. Provide buffering from existing and future Low Density Residential uses in accordance with the following performance standards:

(a) Require photometric lighting plans and appropriate light fixtures to limit spillover of lighting from business park uses into residential areas.

(b) Direct traffic from business park uses away from residential areas.

(c) Prohibit uses within the business park that would create excessive noise and/or unusual or obnoxious odors.

Policy L7.1.3: Adopt policies for approximately 100 acres located east of the Antelope Valley Freeway, approximately 440 feet north of Avenue S, west of 5th Street East and south of Avenues R-8 and R-12, which is designated as "Business Park" on the Land Use Map, to ensure that future businesses uses in this area will present an attractive visual appearance from the freeway and adjacent properties, and that development is sensitive to the physical, environmental and land use constraints in the area, as follows:

a. A master plan shall be prepared for the entire 100± acres prior to issuance of subsequent entitlement permits for individual parcels within the subject area.

b. A Conditional Use Permit or equivalent entitlement shall be required for all development within the subject area.

c. All future development shall comply with the following architectural standards to ensure that development is low profile, well integrated with the natural topography, and utilizes appropriate architectural elements and materials:

1. Building design should incorporate similar materials, form, and architectural details on all elevations to present a unified appearance.

2. To the extent feasible, building heights should be minimized through creative grading techniques such as partial subterranean designs to reduce above ground height of buildings when viewed from lower lying areas.

3. Building materials and colors should be chosen that enhance blending with the natural terrain. Highly reflective materials are discouraged.

d. Building heights shall be in accordance with underlying zone district requirements, however, in no event shall building heights exceed two (2) stories or 35 feet in height as measured from the highest adjacent grade.

e. All landscaped areas and the future park site shall be improved and maintained by the developer or successors interest.

f. The developer or successor in interest will be responsible for retention and protection of natural vegetation in non-graded areas.

g. Parking areas should be screened from lower lying areas through use of berms, landscaping, or similar measures. Landscape plan concepts for parking lot areas should emphasize creation of a tree canopy by providing tree wells between parking spaces at appropriate intervals.

Policy L7.1.4: On the Land Use Map, establish a land use designation that may be utilized in areas of the City currently lacking urban services but where future development may be anticipated upon establishment of plans for infrastructure and related development issues as defined below:

Special Development Designation

The Special Development (SD) designation is appropriate for areas which merit focused planning efforts to ensure orderly and logical development in accordance with General Plan policies. The SD designation is placed upon areas which, due to lack of infrastructure and public services, topography, environmental sensitivity, and development constraints, require comprehensive planning prior to development which goes beyond the level of detail normally associated with the General Plan. This planning could be accomplished through the Specific Plan process, although other methods may be acceptable if they provide the following: 1) A detailed implementation program, including facility phasing and funding; 2) carefully prescribed balance of development and open space within a planning area, in an economically feasible manner; 3) special regulations that are responsive to unique local conditions; and 4) necessary flexibility for long range planned community projects.

Other than single family dwellings on existing lots, gross density within residential portions of the SD designation shall have a range of 0-2 dwelling units per acre. Actual permitted densities within this range are to be determined based upon a site's capacity to accomodate the proposed development, considering such factors as availability of urban services; adequacy of existing and proposed roads to service the proposed densities; physical constraints, including slopes, drainage courses, faults, or similar features; compatibility with adjacent land uses; or other requirements of development, as identified through the review process. In no instance shall the density range established for this designation be interpreted as a guarantee of permitted density.

Upon preparation, review and adoption of one or more comprehensive Specific Plans or similar comprehensive planning document(s) for property within this designation, a higher density may be established based upon environmental, topographic, and infrastructural capacity of the land as defined by supporting documentation. With approval of such Specific Plan or comprehensive planning studies, a General Plan Amendment may be approved to amend the land use designation as determined appropriate pursuant to those studies.

Policy L7.1.5: Ensure that future development within the Vincent Hill Special Development area retains significant natural features on the site, provides for the proper integration of commercial and residential land uses, provides comprehensive circulation planning between various individually owned parcels within the area, and establishes reasonably sited commercially designated areas in accordance with the following criteria:

a. Steeper hills and larger drainage courses shall be retained in a natural state.

b. A market feasibility study shall be provided to determine the appropriate amount of commercial development and phasing at this location.

c. The circulation pattern shall provide linkages between the various individually owned parcels within the Specific Plan area. In particular, commercial areas shall be designed to allow pedestrian/bicycle and vehicular access between from residential areas.

d. A master infrastructure plan shall be provided for the area, considering storm drainage, sewer, water, roads, and public services.

Policy L7.1.6: Ensure that future development within the Bushnell Special Development Area considers physical constraints on the property, including earthquake faults and canyon areas, and that densities are established which maintain consistency with the south side area in accordance with the following criteria:

a. Utilize clustering to provide additional open space in steeper areas and within fault zones.

b. Hunt Canyon should be considered for open space uses, which may include a golf course.

c. A trails system shall be provided which connects to a regional system to the extent feasible.

d. A market feasibility study shall be provided to determine appropriateness of commercial site(s) as part of the Specific Plan submittal. If deemed feasible, the commercial uses provided shall be limited to those serving only the immediate needs of the community. Design of any commercial facilities shall be compatible with the overall community design theme.

e. A Master Drainage Plan utilizing natural open space and drainage areas to the maximum extent feasible. A master infrastructure plan shall be provided for the area, considering sewer, water, roads, and public services.

f. Primary access points shall be provided on 37th and 47th Streets East. Access to Barrel Springs Road will be limited to one (1) access point to minimize traffic flow problems. Parking will be prohibited along Barrel Springs Road.

g. Approved emergency access shall be provided.

h. Larger lots and open spaces shall be provided at the periphery of the project area, to assure consistency with the surrounding area.

Policy L7.1.7: Ensure that development within the Santa Fe Hills Special Development area provides adequate means of secondary access, minimizes visual impacts and grading on north facing sides of Ritter Ridge, provides for a compatible mix of housing types, and establishes an effectual integration of natural and developed areas in accordance with the following criteria:

a. Utilize physical advantages of site to minimize visual impacts. Avoid grading or siting of dwelling units on the north facing side of Ritter Ridge unless visual impacts are minimized.

b. Provide specific street sections and profiles for the secondary access road connecting to Elizabeth Lake Road.

c. Develop architectural standards that ensure that any multifamily development contains architectural elements and building designs consistent with single family building designs.

d. Provide a master infrastructure plan for the entire Specific Plan area.

Policy L7.1.8: Ensure that development within the Southwest Special Development Planning Area occurs in a logical and orderly pattern, and provides for timely and economical provision of infrastructure, compatibility with existing neighborhoods, sensitivity to environmental and topographic constraints, and establishment of

proper buffering around the landfill, by requiring the following area-wide planning and infrastructural studies:

a. Urban development should not occur within the Southwest Special Development Area until area-wide plans establishing backbone infrastructure and carrying capacities of the area are completed to the satisfaction of the City, including road, sewer, water and drainage improvements.

b. Infrastructure plans shall contain an analysis and establishment of municipal facility needs for the area, including, but not limited to, parks, schools, libraries, maintenance yards, public trails and greenbelts, satellite police and fire stations, or similar facilities deemed necessary as a result of urban development within the Southwest Special Development Area.

c. A method for financing infrastructural and facility needs shall be established that equitably allocates costs among property owners who will benefit from these improvements.

d. Alignments of streets and arterials serving a regional function shall be established to the extent feasible, including but not limited to Avenue S and City Ranch Road.

e. Plans for sewer line extensions to the area shall provide for gravity flow systems, to the extent feasible.

f. Development within hillside canyon areas shall provide adequate means of ingress and egress, with secondary access required.

g. Compatible residential land use designations shall be established adjacent to existing residential neighborhoods.

h. Land use designations shall be established that provide a minimum 1000 foot buffer between the ultimate landfill boundaries and residential uses.

i. Significant ridges within the highly visible upper elevations of Verde Ridge and the Sierra Pelona foothills shall be preserved as natural open space.

SECTION 2: GOALS, OBJECTIVES AND POLICIES

GOAL C1: Establish, maintain and enhance a system of streets and highways which will provide for the safe and efficient movement of people and goods throughout the Planning Area, while minimizing adverse impacts on the community.

Objective C1.1: Adopt and implement a street and highway plan designed to meet existing and future circulation needs.

Policy C1.1.1: Designate roadways within the Planning Area as local, collector, secondary arterial, major arterial and regional arterial streets, as shown on the Circulation Plan Map, and adopt standards for right of way and design of these streets which will ensure appropriate capacity and performance of each roadway.

Policy C1.1.2: Cooperate with Caltrans and other affected jurisdictions to establish and adopt standards for intra-regional expressways.

Policy C1.1.3: Develop and maintain a computer traffic model based upon the designated network, and assess existing and projected levels of service on streets within the network in making land use decisions and formulating the Land Use Plan.

Policy C1.1.4: Periodically monitor levels of service within the existing street network to identify deficient street segments and intersections, and develop programs to improve service levels where needed.

Policy C1.1.5: Improve the existing street network based upon the adopted Circulation Plan, through implementation of the Capital Improvement Program and through requirements placed upon new development approvals.

Policy C1.1.6: Design the Circulation Plan Map so as to protect existing neighborhoods and/or significant environmental resources, wherever feasible.

Policy C1.1.7: Ensure that right-of-way is reserved wherever possible to implement the adopted Circulation Plan.

Policy C1.1.8: Evaluate all land use decisions to ensure consistency with the Circulation Plan.

Policy C1.1.9: Ensure that the cumulative and regional impacts of new development on the circulation system are mitigated to the extent feasible, concurrent with development. Concurrent shall mean that required facilities are installed as needed during various stages of development.

Policy C1.1.10: Develop and adopt standards regulating where raised medians will be required, and where right-of-way and pavement width may be reduced, based upon existing and approved development, access control, and circulation needs.

Objective C1.2: Maintain and expand the arterial and regional roadway system to serve existing and future circulation needs.

Policy C1.2.1: Provide adequate system capacity and efficiency through exclusive turn lane additions at arterial intersections and other significant locations.

Policy C1.2.2: Assure safe and efficient arterial operations through careful control of access, signal spacing, median placement, and overall street and development design.

Policy C1.2.3: Protect and increase the capacity of arterial streets through the following measures:

a. No new direct residential driveway access will be permitted onto regional, major and secondary arterials or highways, except where no other feasible access is available.

b. For residential development, full intersections will generally be permitted at no less than one-quarter mile spacing along arterial streets. Where it is determined by the City Traffic Engineer that community-wide circulation will not be negatively impacted, full intersections (non-signalized) may be permitted at approximately one-eighth mile spacing.

c. Except as specified in Policy C1.2.3.b, right turn only access will typically be permitted at approximately one-eighth mile spacing in residential developments, unless no other feasible access is available. Additional right-of-way may be required on arterials for right turn lanes onto local and collector streets, and significant private streets or driveways.

d. On-street parking will be prohibited on arterial roadways, unless otherwise approved by the City Traffic Engineer.

e. New arterial streets, and extensions of existing arterial streets, will be designed so as to eliminate jogs and discontinuities and facilitate regional traffic flow.

f. All secondary, major and regional arterials should be constructed with medians.

Policy C1.2.4: Promote development of regional arterial links within the community where needed to serve existing and future needs, including but not limited to the following:

a. Promote development of grade separations at railroad tracks, in particular, at Palmdale Boulevard.

b. Coordinate with Caltrans and other affected agencies to expedite rerouting of Highway 138 and widening of State Route 14.

Objective C1.3: Establish a system of local and collector streets which serve residential neighborhoods while protecting them from intrusion of through traffic flow.

Policy C1.3.1: Promote development of local street patterns which create and unify neighborhoods, rather than divide them, through the following means:

a. Local street patterns should provide access between subdivisions within a neighborhood, with the exception of through traffic which should be directed onto major and secondary arterials.

b. The local street system should be logical and understandable for the user. Creation of circuitous and confusing travel paths between internal neighborhood areas and adjacent arterials should be avoided.

c. The street system should be designed to avoid creating local streets which will ultimately function as collectors. A local street may be determined to function as a collector street when it is or will be used to collect traffic from local streets and convey it to an arterial street. This function of collecting traffic may be due to the street's length, alignment, design or the lack of other streets which may be used to convey traffic to nearby arterials. In general, local streets will be discouraged from extending more than one-half mile so as to avoid serving this function.

d. Direct residential driveway access onto collectors, or onto local streets which function as collectors, is discouraged.

e. Local street design should provide efficient connection to the arterial highway system while discouraging excessive speeds and volumes within neighborhoods.

f. Maximum cul-de-sac length should be 700 feet. "Dog-leg" cul-de-sacs with one or more turns between the bulb and the outlet should be avoided.

g. To discourage excessive speed and through traffic, street width should not exceed that required for the level of use; right-of-way and pavement widths on local streets may be reduced when it can be demonstrated that such reduction will not negatively impact internal and external circulation. Where such reductions are proposed, the City traffic engineer shall make appropriate recommendations to the Planning Commission during review of the tentative map.

Objective C1.4: Adopt policies and standards for street design and construction which promote safety, convenience and efficiency.

Policy C1.4.1: Strive to maintain a Level of Service (LOS) C or better to the extent practical; in some circumstances, a LOS D may be acceptable for a short duration during peak periods.

Policy C1.4.2: Ensure that approvals of new development are correlated with any roadway improvements that would be necessary to maintain the existing level of service, or LOS C, whichever is less, and other performance characteristics applicable to the affected roadways. Development shall not be authorized until measures are in place to construct any necessary improvements; these measures may include, but not be limited to, payment of traffic impact fees or construction of street improvements as required in the conditions of approval.

Policy C1.4.3: Establish street design standards which provide the capacities that are needed to adequately serve the projected travel demand.

Policy C1.4.4: Promote safe circulation and emergency access, through the following means:

a. Require a minimum 26-foot wide paved access from an improved public street to all developments. Individual single family residences (not associated with a tract map) are excluded from this requirement except as deemed necessary by the Los Angeles County Fire Protection District. Access roads shall be increased to 28 feet in width within 200 feet of an intersection with a public street.

b. Two points of ingress and egress should be provided to every subdivision or phase thereof. Exceptions may be granted for small subdivisions where physical constraints make it difficult or impossible to provide a second access point.

c. Medians constructed in arterial streets should be provided with decorative paved crossover points for emergency vehicles, where deemed necessary by the Fire Department.

d. Street naming and numbering should consider ease of use for dispatch of emergency services.

e. The street system should function safely and effectively, without the subsequent need for excessive traffic control devices.

Policy C1.4.5: Locate and design intersections so as to promote safe and efficient circulation, through the following means:

a. Local to local street intersections should be spaced at least 150 feet apart (from centerline to centerline).

b. Intersections, including knuckles, should generally be perpendicular. Public streets should intersect at a 90 degree angle plus or minus five degrees. Knuckles should be constructed at a 90 degree angle, plus or minus 10 degrees.

c. Excessive grade variations, curves or other features which impair sight distance at intersections shall be avoided.

d. Local to collector street intersections should be spaced no less than 300 feet apart, where necessary to provide adequate queuing room for left turn movements onto the collector street. Where left turn movements onto the collector street are not needed, this spacing requirement may be reduced to 150 feet.

e. On local to local intersections, four-way intersections should be avoided.

f. For intersections of collector or larger streets, four-way intersections are preferred over offset or "T" intersections.

Policy C1.4.6: Adopt standards for use of private streets, where appropriate; private streets, other than driveways and alleyways typically associated with multi-family development, should be constructed to City standards for public rights-of-way, and should be used only for gated communities.

Objective C1.5: Identify and mitigate existing areas of deficiency within the street system in the Planning Area.

Policy C1.5.1: Develop parking and traffic plans for those neighborhoods which are adversely impacted by parking and traffic.

Policy C1.5.2: Periodically monitor levels of service, traffic accident patterns, and physical conditions of the existing street system, and upgrade roadways as needed through the Capital Improvement Program.

Objective C1.6: Ensure that the City street system is adequately maintained, to promote safety and increase the useful life of these facilities.

Policy C1.6.1: Continue a pro-active program of street maintenance for all City streets; maintenance levels and schedules should consider long-term costs.

Policy C1.6.2: Require assurance of long-term maintenance for all private streets constructed within the City.

Objective C1.7: Ensure adequate access within the Planning Area for trucks, while protecting incompatible uses from through truck traffic.

Policy C1.7.1: Review periodically, and update as necessary, City Code provisions concerning truck routes and enforcement.

Policy C1.7.2: To the extent feasible, route through truck traffic around existing and future residential neighborhoods.

Policy C1.7.3: Designate truck routes which will serve commercial/industrial areas while minimizing adverse impacts of heavy truck traffic on these uses.

Objective C1.8: Participate in multi-jurisdictional efforts to upgrade and expand the regional road network.

Policy C1.8.1: Cooperate with other agencies and jurisdictions, including Caltrans, Los Angeles County, and adjacent cities, to evaluate and propose solutions to regional transportation issues relating to the City of Palmdale.

Policy C1.8.2: Coordinate with other jurisdictions to integrate circulation networks.

Policy C1.8.3: Support local, regional, state and federal agencies in identifying and implementing funding alternatives for the City's transportation systems.

GOAL C2: Reduce the number of trips and vehicle miles travelled by individuals within the Planning Area, to meet regional transportation and air quality goals.

Objectives C2.1: Encourage development and implementation of a variety of measures to reduce trips and vehicle miles travelled by existing and future residents and workers within the Planning Area.

Policy C2.1.1: Require Transportation Demand Management Plans from major employers, as defined by the Air Quality Management District and the Congestion Management Plan.

Policy C2.1.2: Promote the use of ridesharing by providing safe and convenient park-and-ride facilities, accessible to mass transit facilities where available, and by providing public information programs for commuters.

Policy C2.1.3: Require residential developments to contribute towards City programs to reduce vehicle trips.

Policy C2.1.4: Provide incentives for trip reduction measures.

Policy C2.1.5: Ensure compliance with the County's Congestion Management Plan.

Policy C2.1.6: Promote alternative means of trip reduction, including telecommuting.

Objective C2.2: Increase the public transit opportunities available to Palmdale residents in order to reduce traffic impacts on streets and highways and provide travel alternatives.

Policy C2.2.1: Promote public transit operations within the Planning Area, and work with transit operators to coordinate schedules, services, service routes and fares.

Policy C2.2.2: Promote the use of public transit by facilitating dedication of access routes and construction of safe and convenient stops with sufficient parking.

Policy C2.2.3: Encourage location of bikeways and storage areas which are integrated with public transit facilities.

Policy C2.2.4: Encourage development of regional rail transit serving the Palmdale area.

Policy C2.2.5: Require provision of bus turnouts for new development, where deemed to be appropriate in consultation with the transit authority.

Policy C2.2.6: Establish a regional transportation center within the City, conveniently located to maximize access to downtown and major commercial centers, which will accommodate a variety of public transportation uses including rail, bus, and shuttle service.

GOAL C3: Encourage use of non-vehicular transportation throughout the Planning Area.

Objective C3.1: Minimize the need for short service-oriented vehicle trips through land use and design strategies.

Policy C3.1.1: Schools, parks and neighborhood commercial uses should be located within convenient walking distance to residential developments.

Policy C3.1.2: Land uses should be arranged in a manner which increases the opportunity to utilize alternate forms of transportation, such as transit systems, bikeways and pedestrian walkways.

Policy C3.1.3: Promote bicycle accessibility to all public facilities, including parks, schools, and centers of civic activity, to include secure bicycle storage areas.

Policy C3.1.4: Require residential subdivision designs to accommodate convenient pedestrian and bicycle access, both on- and off-site.

Policy C3.1.5: Adopt and implement a bikeway plan as a component of the Parks and Recreation Element.

GOAL C4: Promote opportunities for rail service to move goods, passengers and commuters into and out of the Planning Area.

Objective C4.1: Promote the use of rail service to support industry in the City.

Policy C4.1.1: Designate industrial land uses in areas with potential for freight rail service.

Policy C4.1.2: Work with the Southern Pacific Transportation Company to increase surface street access across the railroad tracks while minimizing impacts on rail service.

Objective C4.2: Encourage extension of passenger rail service to the City of Palmdale.

Policy C4.2.1: Support regional efforts to connect Palmdale Regional Airport to Los Angeles International Airport with a high-speed rail line.

Policy C4.2.2: Support regional efforts to provide commuter rail service from Palmdale to the Los Angeles basin.

GOAL C5: Protect and promote a variety of air transportation services within the City of Palmdale.

Objective C5.1: Protect opportunities for full utilization and expansion of Air Force Plant 42.

Policy C5.1.1: Adopt land use designations and policies which minimize encroachment of incompatible uses into space utilized by air operations.

Policy C5.1.2: Implement noise and safety policies as developed by the Joint Land Use Committee and as incorporated into various elements of this General Plan.

Policy C5.1.3: Coordinate development policies and decisions with Air Force Plant 42 representatives.

Objective C5.2: Promote development of Palmdale Regional Airport.

Policy C5.2.1: Promote economic development of land surrounding the airport for large-scale commercial uses, so as to support a market demand for airport services.

Policy C5.2.2: Restrict encroachment of incompatible uses into land affected by future airport operations.

Policy C5.2.3: Promote and support regional transportation planning for routes serving the airport facility, including State Routes 14 and 138.

SECTION 2: GOALS, OBJECTIVES AND POLICIES

GOAL ER1: Preserve significant natural and man-made open space areas that give Palmdale its distinct form and identity.

Objective ER1.1: Create and maintain an open space network throughout the City.

Policy ER1.1.1: Utilize a variety of features, including entry points to the City, landscaped arterial roadways, bikeways, equestrian paths, hiking trails, and park sites, to create an open space network.

Policy ER1.1.2: Provide for a network of open space by linking such areas wherever possible.

Policy ER1.1.3: Incorporate the citywide trail network into the regional trail system. In the interim--until the City's Parks and Recreation Element which fully identifies the citywide trail network--is adopted, implement the North Los Angeles County Trails Plan network, as shown on the Overlay Map.

Policy ER1.1.4: Develop appropriate standards for development clustering and density transfer, in order to maintain areas of scenic open space throughout the Planning Area.

Policy ER1.1.5: Utilize the City's discretionary land use approval process to locate and retain areas for use as open space through dedication or other legal means. Develop criteria and guidelines to identify areas that should be so protected.

Policy ER1.1.6: Integrate natural hazard areas, such as floodways, seismic fault zones, and unstable soils, into the open space network in order to ensure public health, safety and welfare while preserving open space.

Objective ER1.2: Protect scenic viewsheds both to and from the City of Palmdale.

Policy ER1.2.1: New development with the potential to substantially obscure or negatively alter the scenic backdrop to the City should be discouraged. "Scenic backdrop" refers to the significant ridgelines of the San Gabriels, the Sierra Pelona and the Ritter and Portal Ridges that form the City's skyline views.

Policy ER1.2.2: The following roadways are designated as City scenic highways. Apply special design standards for projects adjacent to these highways (as contained in the implementation section) in order to protect their scenic qualities.

a. Barrel Springs Road
b. Tierra Subida Avenue
c. Sierra Highway, South of Avenue S
d. Elizabeth Lake Road
e. Pearblossom Highway
f. Bouquet Canyon Road
g. Godde Hill Road

GOAL ER2: Protect significant ecological resources and ecosystems, including, but not limited to, sensitive flora and fauna habitat areas.

Objective ER2.1: Identify and preserve to the highest extent feasible significant ecological areas.

Policy ER2.1.1: The following broadly defined areas, shown on the Overlay Map and Exhibit ER-5, will be designated as a Significant Ecological Area (SEA) overlay on the General Plan Land Use Map: Big Rock Wash, Little Rock Wash, Ritter Ridge, and Portal Ridge. Biological surveys should be performed to determine the nature and extent of their ecological significance prior to any approval of new developments within the overlay area. Development will not be permitted in these areas if the development is likely to significantly degrade important environmental resources.

Policy ER2.1.2: Promote only compatible, and where appropriate, passive recreational uses in natural areas determined to be ecologically significant consistent with the particular needs and characteristics of each SEA, as determined by approved field observation reports.

Policy ER2.1.3: Solicit and utilize all available sources of local, regional, state and federal funds to acquire significant wetland areas, in order to minimize the disturbance and prevent damage from erosion, turbidity, siltation, a loss of wildlife and vegetation, or the destruction of the natural habitat.

Policy ER2.1.4: Preserve natural drainage courses and riparian areas where significant concentrations of ecological resources exist.

Policy ER2.1.5: Maintain significant Joshua tree woodlands and other significant habitat areas.

GOAL ER3: Preserve designated natural hillsides and ridgelines in the Planning Area, to maintain the aesthetic character of the Antelope Valley.

Objective ER3.1: Establish a systematic approach to the management of land uses and development in hillside areas.

Policy ER3.1.1: Density of development shall respect and be reflective of the natural terrain, so that steeper sites are not developed to the same density/intensity as flatter sites.

Policy ER3.1.2: Adopt grading standards that respect the natural terrain, minimize earth moving activity, minimize visual effects of large cut and fill slopes, and provide for the preservation of unique and significant natural landforms where feasible.

Policy ER3.1.3: Require water-conserving revegetation of disturbed hillside areas, through standards for slope replanting and grading patterns that reduce manufactured slopes.

Policy ER3.1.4: Encourage density transfers where appropriate, in order to facilitate development in more suitable locations while retaining significant natural slopes and areas of environmental sensitivity as natural open space.

Policy ER3.1.5: Retain the integrity of the natural ridgelines of Ritter Ridge, Portal Ridge, Verde Ridge, the Ana Verde Hills, the Sierra Pelona Mountains, and the lower foothills of the San Gabriel Mountains.

GOAL ER4: Protect the quality and quantity of local water resources.

Objective ER4.1: Ensure that ground water supplies are recharged and remain free of contamination.

Policy ER4.1.1: Incorporate the use of flood control measures which maximize groundwater recharge and the use of floodways as native habitat.

Policy ER4.1.2: Restrict building coverage and total impervious area in the vicinity of natural recharge areas.

Policy ER4.1.3: Protect from pollutants or other materials which might degrade groundwater supplies, and enhance natural recharge areas such as the Little Rock and Big Rock Washes, and Amargosa and Anaverde Creeks, and ensure that no mineral resources recovery activities extend below the groundwater table.

Policy ER4.1.4: Require that all new commercial, industrial and residential development with densities of one unit per acre or less connect to a sanitary sewer system prior to occupancy unless otherwise approved by the City.

Policy ER4.1.5: Cooperate with Los Angeles County Health Department and the Regional Water Quality Control Board in monitoring industrial and commercial uses utilizing hazardous or potentially polluting materials and fluids, to prevent their discharge into the groundwater aquifer.

Objective ER4.2: Minimize the impacts of urban development on groundwater supplies.

Policy ER4.2.1: Promote water conserving landscape techniques, through the use of native and drought tolerant plant species and landscape design standards.

Policy ER4.2.2: Utilize native plants or drought resistant planting materials and drip irrigation systems where feasible within the Landscape Assessment District areas.

Policy ER4.2.3: Require the use of water conserving appliances and plumbing fixtures in all new construction.

Policy ER4.2.4: Coordinate with local water agencies to monitor ground water levels, State water allocations and development approvals, to assure that development does not outpace long-term water availability.

GOAL ER5: Promote the attainment of state and federal air quality standards.

Objective ER5.1: Minimize local air pollution caused by vehicles.

Policy ER5.1.1: Reduce work-related trips through such means as promoting alternate work schedules, telecommuting, the use of alternative modes of transportation to the workplace and the creation of additional park and ride facilities.

Policy ER5.1.2: Reduce vehicle non-work trips through merchant transportation incentives and transit system improvements.

Policy ER5.1.3: Reduce vehicle emissions through maintaining and improving traffic flow as contained in the Circulation Element.

Policy ER5.1.4: As technology allows, reduce tailpipe emissions from City vehicles by replacing them with alternative fuel vehicles, and encourage reduction of emissions from private vehicles by requiring preferential parking for alternative fuel vehicles.

Policy ER5.1.5: To the extent practicable, require control of emissions from the future Palmdale Regional Airport.

Policy ER5.1.6: Expand the services of the existing dial-a-ride program resulting in reduced need for automobiles and parking by retired citizens.

Objective ER5.2: Minimize activities which generate dust, specifically particulates less than 10 microns in size (PM10).

Policy ER5.2.1: Reduce dust from unpaved roads and parking lots by requiring paving or vegetative stabilization of the unpaved areas; require that measures be taken at construction sites to prevent deposition of soil onto public rights-of-way.

Policy ER5.2.2: Encourage developers to maintain natural contours to the greatest degree possible, to eliminate the need for extensive land clearing, blasting, ground excavation, grading and cut and fill operations.

Policy ER5.2.3: Require erosion control measures on new development, including covering soil with straw mats or use of chemical soil and dust binders, followed by seeding and watering as soon as possible after grading to prevent fugitive dust.

Objective ER5.3: Reduce and/or eliminate unnecessary sources of air pollution.

Policy ER5.3.1: Promote the South Coast Air Quality Management District's (SCAQMD) efforts to eliminate emissions from such sources as excessive car dealership cold starts, excessive curb idling, emissions from advertising vehicles, and emissions from leaf blowers, among others, through assisting with implementation and enforcement of district programs once they are adopted.

Policy ER5.3.2: Work with Caltrans and the Los Angeles County Sheriff's Department to minimize nonrecurrent congestion which contributes emissions from vehicle idling, by designing effective street systems and identifying appropriate truck routes.

Policy ER5.3.3: Reduce reactive organic gas (ROG) and particulate emissions from building materials and construction methods, by promoting the use of nonsolvent-based, high-solid, or water-based coatings, and requiring compliance with all pertinent SCAQMD rules.

Objective ER5.4: Minimize emissions of air toxins and pollutants which contribute to global warming and ozone depletion.

Policy ER5.4.1: Promote community awareness of the effects of global warming and ozone depleting gases, as well as methods to minimize the creation of those gases, by preparing and distributing educational materials, and cooperating with SCAQMD in establishing regional programs.

Policy ER5.4.2: Through the environmental review process for new development applications, ensure that emissions of air toxins are minimized.

Objective ER5.5: Reduce air pollution caused by energy consumption.

Policy ER5.5.1: Encourage energy conservation from all sectors of the community by promoting the use of energy efficient appliances, processes and equipment, and promoting energy audits of existing structures.

Policy ER5.5.2: Require local government, Palmdale citizens, and local businesses and industries to recycle, as mandated by state law, and to otherwise recycle to the extent possible.

Policy ER5.5.3: Require that new construction promote the use of solar energy systems by providing maximum solar access.

Objective ER5.6: Minimize emissions from indirect sources such as commercial, residential and recreational development.

Policy ER5.6.1: Ensure that new development reduces project-related vehicle miles traveled to the maximum extent feasible.

Policy ER5.6.2: Promote the creation of high occupancy vehicle lanes on State Route 14.

Policy ER5.6.3: Reduce the number of people commuting to the Los Angeles metropolitan area by promoting actions to increase the area's jobs/housing balance.

Policy ER5.6.4: Support the development of a rail system between Palmdale and Los Angeles.

GOAL ER6: Ensure an adequate supply of mineral resources to meet long-term regional construction needs.

Objective ER6.1: Recognize the regional importance of the classified and designated mineral deposits within Palmdale's Planning Area and discourage encroachment of incompatible land uses which could threaten the long-term viability of sand and gravel mining and processing operations in the Little Rock Wash area.

Policy ER6.1.1: Establish a Mineral Resource Extraction (MRE) designation. Permitted uses within the MRE designation shall consist of mineral resource extraction (quarrying) and quarry related uses. Non-quarry related uses shall be permitted within the MRE area only when the Planning Commission has made the following findings:

a. The proposed use is compatible with and will not be detrimental to existing and future quarrying operations; and

b. Long-term regional aggregate needs have been evaluated and available resources will remain adequate to meet the future needs of the market region.

Policy ER6.1.2: Prohibit incompatible land uses within the MRE designation. Example of incompatible land uses include, but are not limited to, residential, some public facilities, intensive industrial and commercial.

Policy ER6.1.3: Require adequate buffering measures between land uses within the MRE designation and incompatible uses outside of, and adjacent to the MRE area.

Policy ER6.1.4: The State designated Mineral Resource Areas within Palmdale's jurisdiction shall be included in the City's Mineral Resource Extraction (MRE) designation to the maximum extent feasible. In determining the boundaries of the MRE area, or in considering any proposed changes to these boundaries, the City shall weigh the following considerations:

a. The short term and long term economic importance to the region of conserving and developing aggregate resources;

b. The economic multiplier effect on industries such as construction and trucking derived from assuring a long-term low cost source of aggregate materials within the Palmdale Production-Consumption Region;

c. The location of State Designated Resource Areas;

d. The location of existing structures and projects under construction and the impact of quarrying operations on these uses;

e. The location of previously approved (entitled) projects and the impact of quarrying operations on these uses; and,

f. The location of property owned by entities not subject to regulation by the City.

Policy ER6.1.5: In order to assure the long term viability of present and future quarry operations, the boundaries of the City's MRE designation should be designed so as to minimize interface problems between future land uses within the MRE area and future land uses outside of the MRE area. The following physical issues should be considered in establishing the boundary for the MRE designation:

a. Noise and dust generation from quarrying operations and from the transportation of aggregate materials from the quarry sites;

b. Aesthetics/visual impacts;

c. Access to future quarry sites;

d. Protection of Significant Ecological Areas;

e. Protection of ground water recharge areas; and

f. Probable trucking routes and their impact on the regional circulation system.

Objective ER6.2: Ensure that the MRE area located within the Little Rock Wash alluvial fan is comprehensively planned.

Policy ER6.2.1: Adopt a Specific Plan or equivalent comprehensive planning document for the Mineral Resource Extraction district associated with the Little Rock Wash.

Policy ER6.2.2: In the Little Rock Wash area, address environmental concerns related to:

- Ground water contamination;
- Sensitive Ecological Areas of flora and fauna;

- Performance standards related to dust and noise and their impacts on surrounding properties and uses;
- Interface between mining activities and surrounding uses;
- Aesthetics; and,
- Public safety.

Policy ER6.2.3: Establish a reclamation plan for the entire area that indicates what the various properties will be used for when mining operations cease, what the target land use designation and zoning shall be for the reclaimed lands, and how the transition to new uses shall be implemented.

Policy ER6.2.4: The area-wide reclamation plan should analyze and plan for adequate areas for groundwater recharge.

Policy ER6.2.5: Address circulation to minimize impacts on the City's existing and planned network, and or adjacent properties.

Policy ER6.2.6: Address infrastructure for the area, including appropriate means of controlling the floodway and managing the flood plain.

GOAL ER7: Protect historical and culturally significant resources which contribute to the community's sense of history.

Objective ER7.1: Promote the identification and preservation of historic structures, historic sites, archaeological sites, and paleontological resources in the City.

Policy ER7.1.1: Identify and recognize historic landmarks from Palmdale's past.

Policy ER7.1.2: Promote maintenance, rehabilitation, and appropriate reuse of identified landmarks where feasible.

Policy ER7.1.3: Require that new development protect significant historic, paleontological, or archaeological resources, or provide for other appropriate mitigation.

Policy ER7.1.4: Develop and maintain a cultural sensitivity map. Require special studies/surveys to be prepared for any development proposals in areas reasonably suspected of containing cultural resources, or as indicated on the sensitivity map.

Policy ER7.1.5: When human remains, suspected to be of Native American origin are discovered, cooperate with the Native American Heritage Commission and any local Native American groups to determine the most appropriate disposition of the human remains and any associated grave goods.

SECTION 2: GOALS, OBJECTIVES AND POLICIES

GOAL PS1: Ensure that adequate public services and facilities are available to support development in an efficient and orderly manner.

Objective PS1.1: Ensure that all new development in Palmdale provides for the infrastructure and public services needed to support it.

Policy PS1.1.1: Require all new development, including major modifications to existing development, to construct required on-site infrastructure improvements pursuant to City standards.

Policy PS1.1.2: Require all new development, including major modifications to existing development, to construct or provide a fair share contribution towards construction of required off-site improvements needed to support the project.

Policy PS1.1.3: Require that on- and off-site improvements are constructed prior to occupancy of a new development project, or phase thereof, unless otherwise approved by the City.

Policy PS1.1.4: Require that adequate provisions are made for maintenance of public improvements, prior to approval of any new development project.

Policy PS1.1.5: When new development is proposed in vacant, rural areas which have not yet been master-planned for provision of infrastructure, require that development proponents provide for or contribute a fair share towards development of backbone plans for roads, sewer, water, drainage and community facilities, prior to granting conditional approval of development applications.

Policy PS1.1.6: When reviewing applications for land use designation changes (i.e., zone change, General Plan Amendment, specific plan amendment), conduct a thorough analysis of the impacts of the proposed change on all elements of the City's infrastructure systems, and require mitigation as deemed appropriate.

Objective PS1.2: Ensure that new development is coordinated with provision of backbone infrastructure within the site and with adjacent properties, to promote cost-efficient construction and maintenance, and ease of access to facilities.

Policy PS1.2.1: Require that provision of streets, sewer, water, drainage and other needed infrastructure be coordinated in a logical manner between adjacent developments, so as to reduce cost of design, construction and maintenance.

Policy PS1.2.2: Require that individual development projects integrate with adjacent development with respect to backbone infrastructure (streets, sewer, water and drainage). If adjacent property is undeveloped, a conceptual plan should be prepared to show that the pending development will allow for future integration and development of adjacent properties in a manner which is reasonable from a design, construction and cost standpoint.

Policy PS1.2.3: Require that the proposed infrastructure design within a development project permits economical and efficient development of land, both on the subject property and on adjacent properties.

Policy PS1.2.4: Require that phasing of infrastructure requirements within a development consider adjacent properties to the extent feasible.

Policy PS1.2.5: Require that infrastructure be designed and constructed to meet ultimate capacity needs, pursuant to a master plan, so as to avoid the need for costly retrofitting.

Policy PS1.2.6: Where feasible, require that consideration be given to sharing drainage detention facilities between adjacent subdivisions, with the cost shared on a "fair share" basis.

Policy PS1.2.7: Ensure that street rights-of-way, drainage facilities, or other similar public infrastructure are not aligned in a manner that increases the developability of a single property at the expense of an adjacent property, unless so required by regional infrastructure plans.

Policy PS1.2.8: Distribute the costs of extending infrastructure equitably among those benefiting from the improvements.

Objective PS1.3: Utilize land use strategies to maximize use of infrastructure facilities.

Policy PS1.3.1: Evaluate annexation of unincorporated developed areas adjacent to or surrounded by the City to ensure that greater efficiency in provision of services will be achieved.

Policy PS1.3.2: Direct growth towards areas which already have backbone infrastructure available, by providing incentives for quality infill development.

Policy PS1.3.3: Encourage development which fully utilizes existing infrastructure systems, while decreasing the need for costly extensions of infrastructure into undeveloped areas.

Policy PS1.3.4: Encourage clustering of development where appropriate, to maximize use of infrastructure.

Policy PS1.3.5: Adopt comprehensive planning documents such as area plans, specific plans and development agreements, to specify the nature, timing and financing of public improvements and services.

Policy PS1.3.6: Encourage mixed use development, to maximize use of infrastructure system.

Objective PS1.4: Develop and implement City programs to plan for, construct and maintain municipal facilities.

Policy PS1.4.1: Adopt and annually update the City's Capital Improvement Program (CIP) to prioritize funding for public works projects in accordance with this General Plan.

Policy PS1.4.2: Adopt and implement service level standards for roads, drainage and park facilities, through on-going monitoring of existing levels of service and through the CIP.

Policy PS1.4.3: Adopt, implement and annually review user fee and impact fee programs, to support the cost of constructing capital facilities and providing services.

Policy PS1.4.4: Explore and implement a variety of public financing methods to fund infrastructure improvements, including assessment districts, Mello-Roos community facilities districts, redevelopment funds, block grant funds, and/or combinations of these and other available funding sources.

Policy PS1.4.5: Adopt a fee program to fund community facilities throughout the community, which may address the Civic Center, library, recreation center, performing arts center, public works yard, senior center expansion, Maryott Auditorium rehabilitation, and other public facilities as deemed appropriate.

Policy PS1.4.6: Evaluate the need for satellite City services throughout the community.

Policy PS1.4.7: Evaluate infrastructure facilities and service levels within developed areas which annex to the City, and promote programs to retrofit street, drainage and sewer improvements where warranted.

Objective PS1.5: Coordinate with other jurisdictions in the Antelope Valley to provide for regional infrastructure improvements, minimize impacts of Palmdale development on adjacent jurisdictions, and provide unified support for mutually beneficial improvements requiring outside approvals and/or funding.

Policy PS1.5.1: Through the development review process, inform adjacent cities, town councils and/or county agencies of development proposals which may impact their infrastructure systems, and consider their input and recommendation in the land use decision process.

Policy PS1.5.2: Inform adjacent cities, town councils and county agencies of City-initiated planning and public works projects which may impact their infrastructure systems, and consider their input and recommendations in the land use decision process.

Policy PS1.5.3: Coordinate planning issues with outside service provider representatives, such as the school districts, sheriff's department, fire district, water districts, and sanitation district, to promote coordinated master planning for these services.

Policy PS1.5.4: Participate in regional efforts to gain State or Federal funding for area-wide improvements.

Objective PS1.6: Ensure that utilities are provided to serve development in Palmdale in an efficient and aesthetic manner.

Policy PS1.6.1: Through adoption of an ordinance, regulate utility line and other utility infrastructure placement and require undergrounding in specified locations where feasible.

Policy PS1.6.2: Coordinate installation of utility line placement with street construction where possible, to minimize cost.

Policy PS1.6.3: Through the development review process, protect existing utility easements and require dedication of additional easements where needed.

GOAL PS2: Ensure that all development in Palmdale is served by adequate water distribution and sewage facilities.

Objective PS2.1: Require that all development be serviced by water supply systems meeting minimum standards for domestic and emergency supply and quality.

Policy PS2.1.1: Require new development to obtain adequate water service to meet the increased demand generated by that development.

Policy PS2.1.2: Protect groundwater quality, through policies and implementation measures contained in the Environmental Resources Element.

Policy PS2.1.3: Promote water conservation in all phases of development planning and construction, through policies and implementation measures contained in the Environmental Resources Element.

Policy PS2.1.4: Support water suppliers and other jurisdictions within the Antelope Valley in studying the current status and projected needs for water supply and delivery.

Objective PS2.2: Require that all development be served by sewage disposal systems which are adequately sized to handle expected wastewater flows and designed and maintained to protect the health of residents.

Policy PS2.2.1: Coordinate with the Los Angeles County Sanitation District to evaluate the sewage disposal system as often as necessary (at least biannually), to ensure adequacy of the system to meet changes in demand and changes in types of waste which occur as a result of development.

Policy PS2.2.2: Require new development to pay necessary fees for expansion of the sewage disposal system to the appropriate agencies, to handle the increased load which it will generate.

Policy PS2.2.3: Support the Los Angeles County Sanitation District in preparation of a master plan for regional sewer facilities in Palmdale.

Policy PS2.2.4: Require that all commercial, industrial, institutional, multiple family and single family residential uses with lot sizes of less than one acre be connected to a public sewer system.

Policy PS2.2.5: Promote annexation of incorporated areas into the Los Angeles County Sanitation District boundaries in a logical fashion, to promote efficient master-planning for sewer facilities.

Policy PS2.2.6: Work with the Sanitation District to identify users for reclaimed water and support plans for its treatment and distribution.

GOAL PS3: Develop and maintain adequate storm drainage and flood control facilities.

Objective PS3.1: Maintain and implement the City's adopted Master Drainage Plan.

Policy PS3.1.1: Continue the drainage impact fee program and periodically adjust fees as needed.

Policy PS3.1.2: Evaluate the impact of all new development and expansion of existing facilities on storm runoff and ensure that the cost of upgrading existing drainage facilities to handle the additional runoff is paid for by the development which generates it.

Policy PS3.1.3: Make use of interim local drainage detention basins to slow stormwater runoff, until such time as permanent drainage facilities are constructed.

Policy PS3.1.4: Through the development review process, reserve land from development in appropriate locations for construction of drainage facilities.

Policy PS3.1.5: Require and provide for on-going maintenance of drainage and detention facilities, to ensure their continued effectiveness in controlling runoff.

Objective PS3.2: Coordinate drainage master planning with environmental resource management.

Policy PS3.2.1: Where feasible, plan for detention or retention facilities in areas where groundwater recharge can be accomplished.

Policy PS3.2.2: Where feasible, construct drainage facilities so as to protect or enhance natural riparian habitat areas.

Policy PS3.2.3: Where feasible, combine drainage facilities with opportunities for recreation, as in placement of trails within drainage easements, or placement of ball fields within detention areas.

GOAL PS4: Support the provision of local educational opportunities for community residents.

Objective PS4.1: Cooperate with school districts serving the City of Palmdale to develop and implement strategies for obtaining school sites and construction financing.

Policy PS4.1.1: Through the development review process, ensure that adequate school sites are reserved to serve the ultimate needs of the population; coordinate with school districts to identify appropriate sites and consider school district master plans in evaluating development proposals.

Policy PS4.1.2: Offer administrative, planning and engineering assistance to the school districts in reviewing school site plans with respect to City plans for drainage, traffic, adjacent land uses and other considerations.

Policy PS4.1.3: In review of development adjacent to school sites, ensure that street and lot placement, grades, walls and other design considerations are incorporated into the design so as to minimize potential conflicts with school uses.

Policy PS4.1.4: Condition approvals of development projects to meet the funding requirements of applicable school districts; on legislative decisions such as zone changes or General Plan Amendments, require appropriate school mitigation as determined by the affected districts (This policy is currently under consideration by the School Districts; the language may be revised in the future).

Policy PS4.1.5: Support joint use of school and City park facilities, where appropriate, to meet the needs of the local community, through site location and planning, and assistance with construction funds.

Policy PS4.1.6: Provide demographic and growth data to the districts so as to assist them in development of facility master plans.

Objective PS4.2: Promote a variety of educational opportunities within Palmdale, to serve the needs of all segments of the population.

Policy PS4.2.1: Cooperate with other jurisdictions and agencies to work towards establishment of a four-year college or university in the Antelope Valley.

Policy PS4.2.2: Facilitate location of pre-school and day-care facilities in appropriate areas throughout the community, so as to meet the needs of the working population.

Policy PS4.2.3: Support continuing education programs, such as literacy training, through City library and park programs.

Policy PS4.2.4: In order to encourage development of educational facilities, permit development of private educational facilities which are found to meet the general educational needs of the community within residentially-designated districts, subject to approval of a Conditional Use Permit.

GOAL PS5: Support the provision of adequate public and community services to meet the needs of residents.

Objective PS5.1: Ensure provision of fire protection facilities and equipment needed to protect existing and future development.

Policy PS5.1.1: Obtain fire protection, fire prevention and paramedic services from Los Angeles County Fire Protection District.

Policy PS5.1.2: Monitor needs and service levels, and strive to minimize response time in both urbanized areas and rural or outlying areas.

Policy PS5.1.3: Through the development review process, assess fire protection needs of development projects and require mitigation needed to maintain adequate service levels, including but not limited to reservation of sites for fire stations and fair-share contributions for fire suppression equipment.

Policy PS5.1.4: Coordinate with and assist the Fire Protection District in planning for future fire station sites in Palmdale, and facilitate location and construction of fire stations in conjunction with other City facilities (such as parks or municipal buildings) where feasible.

Objective PS5.2: Support the provision of adequate law enforcement services to meet the needs of City residents.

Policy PS5.2.1: Contract with the Los Angeles County Sheriff's Department for law enforcement services.

Policy PS5.2.2: Coordinate with and provide input to the Sheriff's Department regarding planning for sheriff's facilities serving Palmdale, with the goal of ultimately obtaining a full-service sheriff's station and satellite stations as needed to serve the community.

Policy PS5.2.3: Monitor staffing and service levels for law enforcement services and work with the Sheriff's Department to ensure adequate staffing to meet service level needs of the community.

Objective PS5.3: Provide library service to meet the needs of existing and future library residents.

Policy PS5.3.1: Evaluate the existing and future library system in the Planning Area and plan for provision of sufficient facility space and materials to serve the population.

Policy PS5.3.2: Adopt and implement the following standards as a goal for library service to the community:

2.5 volumes per capita
8.5 periodicals per 1,000 population
0.5 staff per 1,000 population
5.0 reader's seats per 1,000 population
0.8 square foot of building space per capita.

Policy PS5.3.3: Maintain reciprocal agreements with the county library system and other institutions to provide an additional resource in the City.

Policy PS5.3.4: Promote the construction of new libraries and the expansion of existing libraries as required to meet the needs of existing and future population.

Policy PS5.3.5: Encourage the provision of library outreach services for residents who cannot visit library facilities.

Objective PS5.4: Provide adequate park and recreation facilities to meet the needs of existing and future residents.

Policy PS5.4.1: Adopt and implement a standard of 5 acres of parkland per 1,000 population for the City.

Policy PS5.4.2: Implement the Parks and Recreation Element as a master plan for park acquisition and improvement.

Policy PS5.4.3: Develop a recreation facility to meet the regional recreation needs of the community.

Policy PS5.4.4: Collect park fees and review this fee annually, to provide financing for improvement of parkland in Palmdale.

Policy PS5.4.5: Seek public input on design of all new neighborhood and community parks in Palmdale.

Policy PS5.4.6: Explore various means of acquiring parkland and seek creative and flexible techniques to accomplish City park goals, including but not limited to fee vouchers in exchange for parkland.

Policy PS5.4.7: Where feasible, utilize parks for joint use as flood control facilities.

Objective PS5.5: Promote adequate provision of health care services and programs which serve all segments of the population.

Policy PS5.5.1: Encourage the balanced development of medical care facilities throughout the City.

Policy PS5.5.2: Work with Los Angeles County to assist in coordination of health care programs for City residents.

Objective PS5.6: Provide accessible, convenient facilities for municipal services.

Policy PS5.6.1: Develop a city hall and related facilities within the Civic Center Master Plan area, as approved by the City Council on March 3, 1992.

Policy PS5.6.2: Provide coordinated development services at a centralized location.

Policy PS5.6.3: Provide for a full range of public services within the Civic Center plan area, including library, cultural center, sheriff's station, fire station, and City administration.

Objective PS5.7: Provide opportunities for cultural and artistic activities within the community.

Policy PS5.7.1: Develop or provide a performing arts center to serve a variety of musical, theatrical, exhibit and meeting uses.

GOAL PS6: Ensure provision of adequate facilities and programs to accommodate solid waste and hazardous waste collection, handling and disposal.

Objective PS6.1: Implement the City's adopted Solid Waste Management Plan (SWMP) (adopted on November 14, 1991 by Resolution 91-236).

Policy PS6.1.1: Review proposed development with respect to the SWMP to ensure consistency.

Policy PS6.1.2: Base future decisions on franchise agreements on the SWMP.

Policy PS6.1.3: Develop and implement waste reduction and recycling programs in compliance with the SWMP.

Policy PS6.1.4: Update and maintain the SWMP as needed, with a complete review at least every five years, to ensure that the Plan accurately reflects changing waste stream conditions, government regulations, and City goals.

Objective PS6.2: Adopt a City Hazardous Waste Management Plan as an element of the General Plan.

Policy PS6.2.1: Identify hazardous waste generators and their waste streams by type and quantity, and facilitate the use of appropriate hazardous waste management technology by generators, placing the greatest emphasis on those technologies which achieve source reduction and waste minimization.

Policy PS6.2.2: Ensure that the siting of hazardous waste facilities in the City is consistent with the General Plan, including provisions to ensure protection of residents, businesses and environmental resources, and provide for the safe transport of wastes.

Policy PS6.2.3: Provide opportunities for public participation in the review of proposed hazardous waste facilities.

Policy PS6.2.4: Facilitate compliance with regulations requiring the preparation of Hazardous Materials Management Plans and Risk Management Prevention Plans, as applicable to handlers of specified hazardous materials and acutely hazardous materials.

Policy PS6.2.5: Facilitate the implementation of programs designed to provide for the safe management of hazardous wastes generated by small quantity generators, including households.

Policy PS6.2.6: Support the regulation and enforcement of hazardous waste laws governing the generation, handling, storage, transport, treatment and disposal of hazardous waste.

Policy PS6.2.7: Require disclosure of the presence of hazardous materials on property proposed for development.

SECTION 2: GOALS, OBJECTIVES, AND POLICIES

GOAL S1: Minimize danger and damage to public health, safety, and welfare resulting from natural hazards.

Objective S1.1: Review development within or adjacent to geologic hazards, to ensure adequate provisions for public safety.

Policy S1.1.1: Provide copies of geotechnical reports for projects located within the Alquist-Priolo Special Studies Zone, as shown on the Overlay Map, to the State Division of Mines and Geology.

Policy S1.1.2: Assist developers in obtaining necessary technical and policy information regarding seismic hazards.

Policy S1.1.3: Require geotechnical studies, to be reviewed and approved by the City's geologist, for development proposals in areas where geotechnical hazards may be present, and implement the recommendations of those reports as deemed necessary by the City.

Policy S1.1.4: Require appropriate structural setbacks from active fault rupture traces in accordance with Alquist-Priolo standards and as required by the City, based on geotechnical analysis.

Policy S1.1.5: Require structural setbacks or special foundations for structures within potentially active fault zones as determined by the City, based on geotechnical analysis.

Policy S1.1.6: Require special foundations within inactive fault zones if determined necessary by the City.

Policy S1.1.7: Restrict location of utility lines, whether above or below ground, within fifty feet of a fault trace, except to cross the fault trace. Utility lines crossing fault traces should be specifically designed to withstand the expected movement of the earth in these locations. Utility lines as defined here would include, but not be limited to, electricity, water, natural gas and sewer.

Policy S1.1.8: Require that all structures should meet or exceed state required earthquake resistant design standards.

Policy S1.1.9: Review development proposals located in or immediately adjacent to areas of soil instability, liquefaction areas, and steep slopes to determine if a significant constraint exists and to determine appropriate land use or hazard mitigation methods, and require compliance with any such measures identified.

Policy S1.1.10: Develop and adopt hillside grading standards to minimize the hazards of erosion and slope failure.

Objective S1.2: Minimize hazards associated with flood plains in the area.

Policy S1.2.1: Require that new development shall not be exposed to flood hazards or contribute to an existing flood hazard.

Policy S1.2.2: Require that building foundations be a minimum of one (1) foot above the 100-year flood elevation, unless alternative diversion methods are approved by the City Engineer.

Policy S1.2.3: Require that grading of floodways shall be in a manner which allows for groundwater recharge and protection of projects from flooding.

Policy S1.2.4: All required primary and secondary access and egress routes for all new development should be "dry" access located outside of the 100-year flood plain.

Policy S1.2.5: Consider the operability of natural gas, electric, water and sewer services during the occurrence of flooding in review of project design.

Policy S1.2.6: Require that grading and other methods of water diversion be used to retard water runoff, where appropriate.

Policy S1.2.7: Ensure that storm water drainage is designed to limit peak flow conditions.

Policy S1.2.8: Ensure that new development complies with floodplain zoning and watershed management regulations.

Policy S1.2.9: Preserve and restore the natural and beneficial values served by floodplains to the extent feasible, consistent with public health, safety and welfare.

Policy S1.2.10: Promote open space and recreational uses in designated flood zones, unless mitigation of the hazard can allow other types of development.

Policy S1.2.11: Implement the City's Master Drainage Plan, through the development review process and capital improvement program.

Policy S1.2.12: Monitor and require continued maintenance of drainage basins throughout the City to ensure maximum flood protection from existing facilities and prevent downstream flood hazards.

Policy S1.2.13: Implement public financing programs where feasible, to provide for required drainage improvements, and coordinate design and construction of flood control improvements with adjacent jurisdictions where appropriate.

Policy S1.3.14: Ensure that development near National Forest lands does not result in increased flows of water or debris on to forest land.

Objective S1.3: Ensure compatible development in areas within or adjacent to natural high fire risk areas (urban-wildland interface), and other high fire risk areas.

Policy S1.3.1: Ensure that structural setbacks from fire-prone vegetation for buildings near the National Forest are maintained in accordance with the standards and regulations established by the National Forest Service. Require that all necessary fire clearances be provided on private (not public) land.

Policy S1.3.2: Encourage dual access, particularly in mountainous and high fire risk ares, on approved all-weather surface roadways.

Policy S1.3.3: Provide fire-resistant landscaped buffer zones between high risk fire hazard areas and urban development, and restrict access from development into the open space areas during periods of high fire risk.

Policy S1.3.4: Evaluate the need for fire resistant landscape buffer zones for existing developments located in high risk fire hazard areas, and require fuel modification on a continuous basis where appropriate.

Policy S1.3.5: Require that all new development proposals near the designated wildfire hazard zones identify evacuation/emergency routes, and that the information be provided to all residents within the development.

Policy S1.3.6: Where appropriate, require preparation of a Fire Protection Plan for new urban development adjacent to natural high fire hazard areas, and ensure implementation of fire hazard mitigation measures.

Policy S1.3.7: Where feasible, require new development to pay for fire protection services and facilities needed to support it.

Policy S1.3.8: Coordinate fire prevention and protection service needs and facility planning with Los Angeles County Fire District.

Policy S1.3.9: Ensure that the requirements of the Los Angeles County Fire Department are implemented on new development proposals, through the review process.

Policy S1.3.10: All new development must be served by a water system that meets the fire flow requirements established by the fire department.

GOAL S2: Minimize damage associated with man-made hazards.

Objective S2.1: Minimize damage from catastrophic failure of infrastructure.

Policy S2.1.1: Evaluate potential hazards associated with rupture of the California Aqueduct, to ensure that development in areas threatened with inundation are designed to minimize the threat to life and property.

Policy S2.1.2: Evaluate the potential for inundation from failure of the Lake Palmdale or Littlerock dams when reviewing development proposals within potential inundation areas.

Policy S2.1.3: Evaluate potential hazards associated with detention basin facilities, water main or reservoir rupture and minimize possible threat of inundation to life and property through design measures applied during the development review process.

Policy S2.1.4: Require that development in areas near high-pressure natural gas lines shall be buffered from them and provided with alternative access/evacuation routes.

Objective S2.2: Minimize damage resulting from aircraft accidents.

Policy S2.2.1: Require all development to comply with applicable FAA regulations which affect development in the Accident Potential Zones.

Policy S2.2.2: Through the design review process, ensure that new buildings are located in a manner which will promote clear linear corridors through the developed area within any Accident Potential Zones, to create potential pilot options in the event of an aircraft emergency.

Policy S2.2.3: Review and evaluate currently existing areas within the low altitude overflight area which are occupied by incompatible uses, to determine the potential of the redevelopment process to convert those land uses to airport compatible uses.

Objective S2.3: Protect the public from hazardous materials and the hazards associated with the transport, storage or disposal of such materials.

Policy S2.3.1: Coordinate with Los Angeles County Fire Department to develop a listing of all hazardous waste generators that could affect City residents.

Policy S2.3.2: Continue to support and encourage state, City and county efforts to identify existing or previously existing hazardous waste generators or contaminated sites.

Policy S2.3.3: Require that soils containing toxic or hazardous substances be cleaned up to the satisfaction of the agency having jurisdiction, prior to the granting of any permits for new development.

Policy S2.3.4: Restrict or prohibit land uses and activities that generate excessive amounts of hazardous materials or wastes that cannot be properly maintained or disposed.

Policy S2.3.5: Promote the routing of vehicles carrying potentially hazardous materials along transportation corridors that reduce the risk to the public and sensitive environmental areas. Cooperate with regional agencies in developing such routing systems.

Policy S2.3.6: Require that all proposed hazardous waste facilities comply with AB2948 (Tanner Legislation) and Chapter 9 Article 96 of the Palmdale Zoning Ordinance.

Policy S2.3.7: Prepare and adopt a city-wide Hazardous Waste Management Plan consistent with the Los Angeles County Hazardous Waste Management Plan, in order to ensure that local hazardous waste facility siting is compatible with local land use policy.

Objective S2.4: Ensure that development of a federal, state, or county prison in Palmdale shall not impact the health, safety, and lifestyle of residents.

Policy S2.4.1: Require that no jail, prison, or penitentiary facility or ancillary facilities shall be located either in residential areas or within 5 miles of a school, with the exception of a sheriff's substation.

Policy S2.4.2: Ensure that access to jail or prison facilities is not through residential areas, to the extent feasible.

Policy S2.4.3: Review the design and location of any jail or prison facility to ensure that it: (1) affords maximum protection to surrounding areas; (2) presents an attractive appearance compatible with surrounding development; and (3) that all related facilities are located on the same site.

Objective S2.5: Minimize potential hazards related to crime through the development review process and through on-going public education programs.

Policy S2.5.1: Through the subdivision development plan review process, recommend that residential entryways be visible from other nearby units to encourage neighborhood surveillance.

Policy S2.5.2: Require all commercial and industrial projects to provide adequate lighting for buildings and parking areas, and visibility for patrol vehicles, to assist in law enforcement surveillance.

Policy S2.5.3: Where appropriate, require provisions of security within new developments on a continuing basis.

Policy S2.5.4: Encourage the formation and continued education of neighborhood and business watch groups, to assist the Sheriff Department in crime prevention and detection.

GOAL S3: Maintain and enhance City emergency services.

Objective S3.1: Prepare the Palmdale community to be self-sufficient in the event of an emergency.

Policy S3.1.1: Ensure that there is not a reduction in effectiveness of emergency services as a result of growth permitted through the implementation of this plan.

Policy S3.1.2: Develop and implement a plan in cooperation with hospitals, schools, major businesses, utilities, the Red Cross, churches and other service providers to work together and train in preparation for a coordinated response during a major event.

Policy S3.1.3: Periodically, but not less than annually, review emergency service equipment and shelters to ensure that they are adequate to meet the needs of changing land uses and development types.

Policy S3.1.4: Consider the City's daytime and permanent population in determining emergency service needs.

Policy S3.1.5: Require all residents to maintain visible and clearly legible signs and street numbers to shorten the response time of emergency personnel.

Policy S3.1.6: Require City staff to undergo regular disaster preparedness training.

Policy S3.1.7: Maintain and implement the City's adopted Disaster Preparedness Plan.

GOAL S4: Protect public safety through the implementation and enforcement of City Ordinances and through public education.

Objective S4.1: Develop, implement and enforce City Codes to insure safe and sanitary living and working conditions throughout the City.

Policy S4.1.1: Adopt appropriate Codes to assure minimum standards to safeguard health, safety and public welfare by regulating the use and occupancy, location and maintenance of structures within the City.

Policy S4.1.2: Coordinate with other agencies (i.e., Los Angeles County Department of Health, Los Angeles County Fire Department, Regional Water Quality Control Board) to require correction of unsafe conditions.

Objective S4.2: Support the development and continued updating of public education programs on health and safety.

Objective S4.2.1: Prepare and disseminate educational information to residents and businesses on preparing for response to hazards of the area, including major earthquake, floods, hazardous waste spills, wildfire, etc.

Policy S4.2.2: Encourage and assist the school districts in teaching children to respond appropriately in an emergency, especially to situations unique to a desert environment. Such training should be repeated regularly to ensure that each child knows what to do in case of heat stroke, snake bites, floods, earthquakes, etc.

Policy S4.2.3: Promote the use of water filtration systems at point-of-delivery for acceptable water quality in emergency situations.

SECTION 2: GOALS, OBJECTIVES, AND POLICIES

GOAL N1: Minimize the exposure of residents to excessive noise to the extent possible, through the land planning and the development review process.

Objective N1.1: Utilize appropriate land use planning as the primary method of achieving noise compatibility among adjacent land uses.

Policy N1.1.1: Locate noise compatible land uses near existing and future air, rail and highway transportation noise sources.

Policy N1.1.2: Restrict noise sensitive land uses near existing or future air, rail or highway transportation noise sources unless mitigation measures have been incorporated into the design of the project to reduce the noise levels at the noise sensitive land use to less than 65 dBA CNEL at all exterior living spaces including but not limited to, single-family yards and multi-family patios, balconies, pool areas, cook-out areas and related private recreation areas.

Policy N1.1.3: When proposed stationary noise sources could exceed an exterior noise level of 65 dBA CNEL at present, or could impact future noise sensitive land uses, require preparation of an acoustical analysis and mitigation measures to reduce noise levels to no more than 65 dBA CNEL exterior and 45 dBA CNEL interior; if the noise level cannot be reduced to these thresholds through mitigation, the new noise source should not be permitted.

Policy N1.1.4: Consider the noise environment when making land use decisions with respect to the guidelines contained in Table N-1, and require noise standards consistent with the criteria listed on Table N-3. The State Recommended Acceptable Noise Guidelines, listed in Table N-1, are provided as guidelines only, and are not represented as standards.

Objective N1.2: Protect and maintain those areas having acceptable noise environments.

Policy N1.2.1: Locate new major noise sources in areas containing existing noise sources, and avoid their location adjacent to noise sensitive land uses unless a finding can be made, based on evidence in the record, that the placement of the new noise source will not result in adverse impacts to the existing noise sensitive land use.

Policy N1.2.2: Restrict construction hours during the evening, early morning and Sundays.

Policy N1.2.3: Utilize any or all of the following measures in order to maintain acceptable noise environments throughout the City:

a. Control of noise at its source, including noise barriers and other muffling devices built into the noise source.

b. The provision of buffer areas and/or wide setbacks between the noise source and other development.

c. The reduction of densities, where practical, adjacent to the noise source (freeway, airport, railroad).

d. The use of sound insulation, blank walls, double paned windows and other design or architectural techniques to reduce interior noise levels.

e. Designation of appropriate land uses adjacent to known noise sources.

GOAL N2: Promote noise compatible land uses within the 65 CNEL contour and the Frequent Overflight Area of Air Force Plant 42.

Objective N2.1: Ensure that land uses planned in the vicinity of Plant 42 will not be adversely affected by present and future noise levels expected to be generated by Plant 42.

Policy N2.1.1: Designate and permit land uses within the 65 CNEL contour and the Frequent Overflight Area which are primarily industrial, business park, commercial and recreational uses which are not noise sensitive; permit other uses only when it is found that no adverse noise impacts will result.

Policy N2.1.2: Restrict noise sensitive land uses (such as residential uses, churches, schools, rest homes, or similar uses) within areas designated as within both the 65 CNEL contour and the Frequent Overflight Area.

Policy N2.1.3: In areas which are outside of the 65 dBA CNEL contour but which are within the Frequent Overflight Area, encourage establishment of compatible uses to the extent feasible.

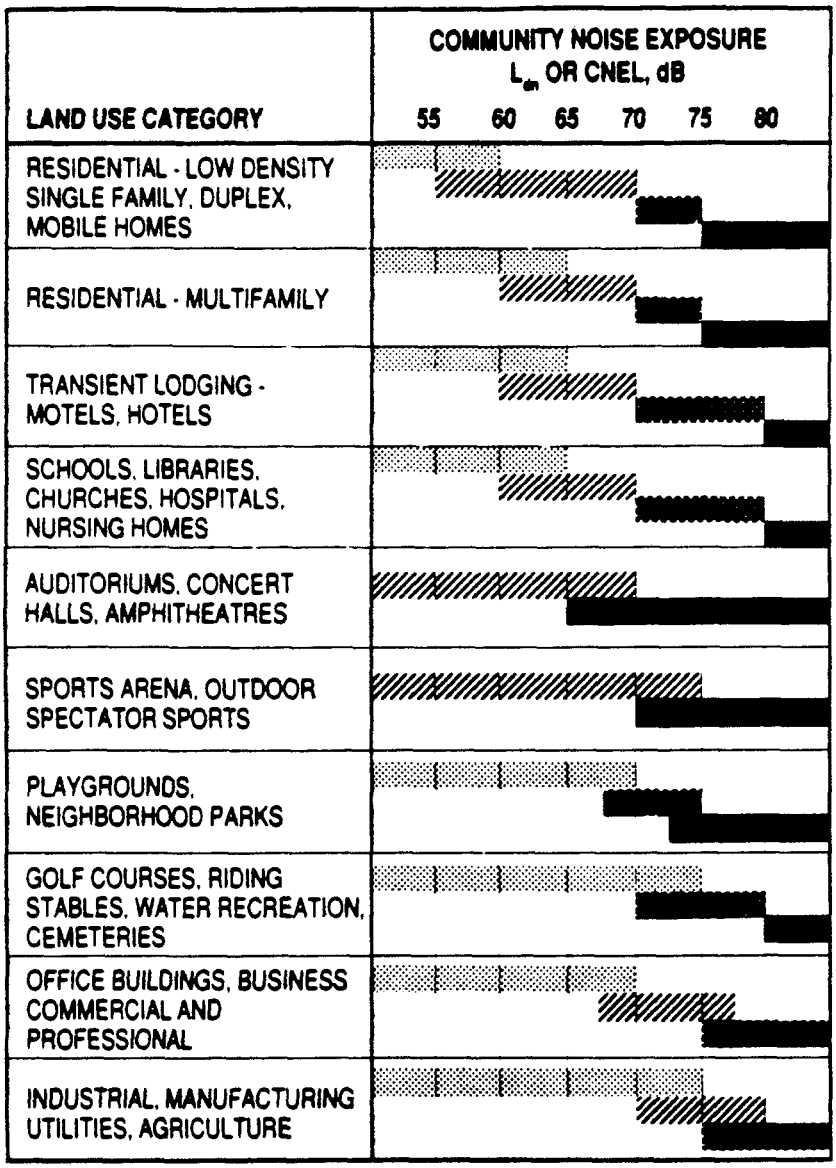
Policy N2.1.4: Through the development review process, require that all new projects within the Accident Potential Zone (APZ) of Air Force Plant 42 provide an avigation easement. A disclosure statement indicating that the property is subject to frequent overflight and aircraft noise should be required upon sale of property within the APZ.

Policy N2.1.5: Through conditions of approval, require that any owner of developed or undeveloped property within the 65 CNEL noise contour or the low altitude overflight area which is seeking a land use action from the City provide an avigation easement to the Los Angeles Department of Airports, the U.S. Air Force, and the City.

Policy N2.1.6: Investigate various means of obtaining avigation easements from all properties within the 65 CNEL noise contour and the low altitude overflight area, and obtain those easements to the extent feasible.

Table N-1

State Recommended Noise Level Guidelines



LEGEND

NORMALLY ACCEPTABLE
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

CONDITIONALLY ACCEPTABLE
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

NORMALLY UNACCEPTABLE
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

CLEARLY UNACCEPTABLE
New construction or development should generally not be undertaken.

CONSIDERATIONS IN DETERMINATION OF NOISE-COMPATIBLE LAND USE

A. NORMALIZED NOISE EXPOSURE INFORMATION DESIRED

Where sufficient data exists, evaluate land use suitability with respect to a "normalized" value of CNEL or L_{dn}. Normalized values are obtained by adding or subtracting the constants described in Table 1 to the measured or calculated value of CNEL or L_{dn}.

B. NOISE SOURCE CHARACTERISTICS

The land use-noise compatibility recommendations should be viewed in relation to the specific source of the noise. For example, aircraft and railroad noise is normally made up of higher single noise events than auto traffic but occurs less frequently. Therefore, different sources yielding the same composite noise exposure do not necessarily create the same noise environment. The State Aeronautics Act uses 65 dB CNEL as the criterion which airports must eventually meet to protect existing residential communities from unacceptable exposure to aircraft noise. In order to facilitate the purposes of the Act, one of which is to encourage land uses compatible with the 65 dB CNEL criterion wherever possible, and in order to facilitate the ability of airports to comply with the Act, residential uses located in Community Noise Exposure Areas greater than 65 dB should be discouraged and considered located within normally unacceptable areas.

C. SUITABLE INTERIOR ENVIRONMENTS

One objective of locating residential units relative to a known noise source is to maintain a suitable interior noise environment at no greater than 45 dB CNEL of L_{dn}. This requirement, coupled with the measured or calculated noise reduction performance of the type of structure under consideration, should govern the minimum acceptable distance to a noise source.

D. ACCEPTABLE OUTDOOR ENVIRONMENTS

Another consideration, which in some communities is an overriding factor, is the desire for an acceptable outdoor noise environment. When this is the case, more restrictive standards for land use compatibility, typically below the maximum considered "normally acceptable" for that land use category, may be appropriate.

Source: California Department of Health, Guidelines for the Preparation and Content of Noise Elements of The General Plan, February 1976

SECTION 2: GOALS, OBJECTIVES, POLICIES, AND IMPLEMENTATION PROGRAMS

GOAL H1: Promote the construction of new housing affordable to all income groups.

Objective H1.1: Provide sites at a range of densities adequate to accommodate future housing needs.

> **Policy H1.1.1:** Encourage a variety of housing types such as single family attached (townhouses), multi-family units, planned unit developments and other housing types that make housing more affordable.
>
> **Policy H1.1.2:** Encourage the development of new affordable units through the provision of incentives.
>
> **Policy H1.1.3:** Ensure that all necessary support services can be provided to new developments.

Program H1.A: New Housing Development

Encourage the production of 10,338 new housing units between 1989 and 1994. Since 9,330 were built in Palmdale between 1989 and 1992, between 1992 and 1994 encourage the production of an additional 1,015 new single and multi-family housing units on currently vacant or underutilized land through implementation of the standards and densities designated in the Land Use Element of the General Plan. By adopting a new Land Use Element, make provision for the production of an additional 10,000 new units in the planning period 1994-1999.

> Quantified Objective: 10,388 new housing units constructed 1989-1994. (9,330 units already constructed 1989-1992; 1,008 additional new units needed 1992-1994.)
>
> Responsible Agency: Planning Commission and City Council.

Implementation Actions	Target Date
Adopt Land Use Element	November 1992
Adopt Interim Zoning Consistency Map	May 1993
Draft Development Code	June 1993-March 1994
Adopt Development Code	July 1994

Program H1.B: Density Bonus Ordinance (Proposed)

In accordance with state law, adopt a density bonus program that includes developer incentives as required by California Government Code 65915. Provide a 25% density bonus for housing developers who make 10% of their units affordable to households earning 50% of median income or 20% of units affordable to households earning 60% of median income.

Responsible Agency: Planning Department

Implementation Actions	Target Date
Draft ordinance and submit to City Council	January 1994
Draft regulations and begin implementation	June 1994

Program H1.C: Second Unit Ordinance

Develop a second unit ordinance to establish local criteria for the approval of second units constructed pursuant to California Government Code Section 65852.1-65852.2

Responsible Agency: Planning Department

Implementation Actions	Target Date
Develop and ordinance and submit for approval	June 1994

Program H1.D: Alternate Housing Types Ordinance

Under this existing program, the City permits the development of mobile home subdivisions in appropriate areas per Ordinance No. 422. This allows the placement of mobile homes on single-family lots. Ordinance No. 414 provides for the development of subdividisions comprised of manufactured housing or mobile homes. These housing forms are permitted in all residential zoning designations in the City.

Responsible Agency: Planning Department

Implementation Actions: Continue an ongoing program.

Program H1.E: Minimum Residential Standards Ordinance

The City will adopt an ordinance to establish minimum standards for residential structures to ensure that a standard for liveability is maintained.

Responsible Agency: Planning Department

Implementation Actions:	Target Date
Develop and adopt an Ordinance	June, 1994

Objective H1.2: Increase the supply of ownership housing affordable to households with very low, low and moderate income.

Policy H1.2.1: Assist first-time homebuyers.

Policy H1.2.2: Adopt legislation to ensure the development of new units affordable to low and very low income households.

Policy H1.2.3: Protect the affordability of assisted ownership units to households who meet the eligibility criteria established for the initial sale (adjusted for inflation) by establishing a mechanism for providing low cost financing and by any other feasible means.

Program H1.F: Inclusionary Housing

Develop an inclusionary housing program to incorporate affordable housing into the development process. For example, in a housing partnership, developers of large housing tracts would trade affordable housing units for their entitlements to build a market rate for-sale housing project. Under such a program, the developer could be given such options as: build affordable housing in the market rate development, build affordable units on another site, or pay a fee. Developers who wanted to build more than 15% affordable units could apply to the City for assistance.

Responsible Agency: Redevelopment and Planning

Implementation Actions	Target Date
Convene a committee of developers and City staff	January 1993
Draft an inclusionary policy	January 1994
Draft an ordinance and submit to City Council	March 1994
Draft regulations and begin program implementation	September 1994

Program H1.G: First-time Homebuyer Program

Assess the feasibility of developing a program to assist first-time home buyers with deferred payment secondary finance. Such loans, often called "soft seconds," could be made at low interest rates with payment deferred until income increases or until sale. Such a program may include shared appreciation mortgages (SAM). Upon sale of the assisted home, deposit the City's share of the profits from the SAM in the housing trust fund.

Responsible Agency: Redevelopment Agency

Implementation Actions	Target Date
Assess feasibility and submit recommendations	January 1994
Develop program guidelines and recommended funding.	June 1994

Program H1.H: Low and Moderate Income Housing Set-Aside

In accordance with state redevelopment law, the Redevelopment Agency has developed a program for the allocation of no less than 20% of the future tax increment revenues generated by the City's Redevelopment Project to the development of permanently affordable housing citywide. As permitted by law, direct funds to housing both inside and outside the City's Redevelopment Project areas. The fund has a current balance of about $6 million. The Redevelopment Agency estimates that the fund will receive about $3 million annually from the City's various project areas.

Responsible Agency: Redevelopment Agency

Implementation Actions: Continue an ongoing program.

Program H1.I: Single Family Mortgage Revenue Bond Program

Issue tax-free mortgage revenue bonds to provide low interest loans for first-time home buyers. Mortgage revenue bonds reduce the mortgage interest rates for residential loans. Bond programs also reduce the amount of income a purchaser must earn to qualify for a loan. Mortgage revenue bonds are issued by the Redevelopment Agency.

Quantified Objective: $50 million in bonds to provide 500 loans at below market interest rates to moderate income households.

Responsible Agency: Redevelopment Agency

Implementation Actions. Continue an ongoing program (depends on extension of federal authority for private activity bonds.)

Objective H1.3: Increase the supply of rental housing affordable to households with very low, low and moderate income[26].

Policy H1.3.1: Support programs and City actions that increase the number of rental housing units available for working households of modest income, young families, senior citizens and households with special needs.

Policy H1.3.2: Require that all units developed under any of the City's affordable housing programs remain affordable for the longest possible time or at least 30 years.

Program H1.J: Affordable Housing Land Bank

Using redevelopment monies and other available housing funds, acquire land to be used to build new affordable single and multi-family housing units for Palmdale residents. Land could be used to develop either rental or ownership housing. (See also Program H1.M, Replacement Housing Land Bank.)

Responsible Agency: Redevelopment Agency

Implementation Actions	Target Date
Develop program guidelines	January 1993
Identify parcels of land appropriate for affordable housing and purchase them for future development.	July 1993

Program H1.K: Predevelopment Loan Program

Develop a fund to provide predevelopment loans to nonprofit agencies and resident associations to pay for financial consulting, fees, permits, inspections and other expenses incurred in nonprofit acquisition, rehabilitation or construction of affordable housing.

Responsible Agency: Redevelopment Agency

Implementation Actions	Target Date
Develop program guidelines and recommended budget	March 1993
Begin program	July 1993

Program H1.L: Rental Housing Construction Program

Provide assistance to developers to construct affordable rental housing developments in the City to serve low income families and seniors and households with special needs. (See also Goal E, Special Needs Housing)

Responsible Agency: Redevelopment Agency

Implementation Actions	Target Date
Develop program guidelines and recommended budget	March 1993
Begin program	July 1993

Objective H1.4: Maintain the supply of housing affordable to low and very low income persons.

Policy H1.4.1: Replace affordable housing units demolished through City action within Community Redevelopment Agency project areas with units of equivalent price and size.

Policy H1.4.2: In Redevelopment Project Areas, require private developers to replace demolished affordable housing units with units of equivalent price and size.

Program H1.M: Replacement Housing Land Bank

Using funds from the Low and Moderate Income Housing Set Aside of the Palmdale Redevelopment Agency, acquire land to be used to construct affordable housing to replace units demolished for publicly financed projects. (See Affordable Housing Land Bank under Program H1.J)

Responsible Agency: Redevelopment Agency

Implementation Actions	Target Date
Develop program guidelines and implement as needed.	October 1993

Program H1.N: Replacement Housing Construction Program (Proposed)

Develop a program to finance the construction of new single and multi-family rental and ownership units to replace rental units demolished by public action. The replacement units shall be equivalent in price and unit size to the demolished units.

Quantified Objective: Finance 10 replacement units 1992-1994

Responsible Agency: Redevelopment Agency

Implementation Actions	Target Date
Develop program guidelines and budget recommendations and submit for approval	September 1992

Program H1.O: Condominium Conversion Standards Ordinance

Adopt an ordinance to create standards and criteria for conversion of multi- family rental units to condominiums.

Responsible Agency: Planning Department

Implementation Actions	Target Date
Develop findings and guidelines and draft an ordinance	March 1993

Objective H1.5: Reduce government constraints on the production of housing.

Policy H1.5.1: When practical and prudent, consider flexible development and building standards to reduce the cost of construction.

Policy H1.5.2: Continue to expedite processing for all housing.

Program H1.P: *Permit Streamlining Program*

Continue existing programs to expediate permit processing.

Responsible Agency: Planning, and Building and Safety Departments.

Implementation Action: Continue an existing program.

Program H1.Q: *Housing Impact Review*

Review housing impacts of proposed City policies, programs and actions and prepare an assessment letter when adverse impacts are identified. Housing impact assessments to be required for zone changes, development fees, assessments and amendments to the General Plan. Housing impact assessments will evaluate the effects of proposed actions on the provision and preservation of housing for low and moderate income households. The assessments will propose measures that would mitigate the identified housing impacts.

Responsible Agency: Planning Department

Implementation Actions	Target Date
Develop guidelines for conducting impact review and begin implementation	January 1994

GOAL H2: Preserve and improve the existing supply of affordable housing.

Objective H2.1: Bring existing housing units up to an established standard of habitability.

Policy H2.1.1: Develop a standard of habitability for the City's housing stock.

Policy H2.1.2: Develop and operate programs to provide rehabilitation assistance to homeowners and to owners of multi-family rental housing if those owners agree to maintain the affordability of those units.

Policy H2.1.3: Maintain the affordability of leased mobile home spaces for seniors and low income families. (See also Goal E, Special Needs Housing)

Policy H2.1.4: Require that all units developed under any of the City's affordable housing programs remain affordable for the longest possible time or at least 30 years.

Policy H2.1.5: Actively enforce compliance with health, safety, building, fire, law enforcement and other regulations in all neighborhoods.

Program H2.A: Habitability Standard

Adopt an ordinance establishing a standard of habitability for application to existing mobile home parks and multi-family and single-family housing units.

Responsible Agency: Planning, and Building and Safety Departments.

Implementation Action:	Target Date
Adopt a Residential Standards Ordinance	June, 1994

Program H2.B: Handiworker Program

Develop a handiworker program that will provide grant-funded housing repairs for eligible elderly and very low income households in single family dwelling units.

Quantified Objective: Provide repairs and weatherization services to 25 eligible households 1993-1994

Responsible Agency: Redevelopment Agency

Implementation Actions:	Target Date
Review and revise program designed by CDBG staff	January 1993
Submit program and budget appropriation to Council for approval.	May 1993
Begin program operation	July 1993

Program H2.C: Los Angeles County Community Development Commission Rental Rehabilitation Program

Assess the costs and benefits of participating in this program of the Community Development Commission which provides low-interest rehabilitation loans to owners of multi-family rental housing. Participating owners may raise rents to make loan payments.

Responsible Agency: Community Development Commission

Implementation Action:	Target Date
Conduct an assessment and submit recommendations	December 1993

***Program H2.D:** Multi-Family and Rental Unit Rehabilitation Program*

Develop a rehabilitation loan program for single and multi-family rental buildings. This program will require owners to agree to rent to eligible low income households and to maintain the affordability of the assisted units for a period of between 15 and 30 years in exchange for a low interest rate loan.

Responsible Agency: Redevelopment Agency

Implementation Actions	Target Date
Develop program guidelines and submit for budget approval	May 1993
Begin program implementation	July 1993

***Program H2.E:** Community Development Commission Bond-Financed Major Rehabilitation Loan Program for Single Family Homes.*

This program, operated by the County of Los Angeles Community Development Commission, currently provides home improvement loans to eligible lower and moderate income households. The loan program currently offers reduced interest rates on loans up to $90,000. The City, as a participating city in the County's CDBG program, may participate in this program by agreeing to purchase a share of the bonds issued to support the program.

Responsible Agency: Redevelopment Agency

Implementation Actions	Target Date
Assess suitability of program criteria for Palmdale households.	January 1993
Complete procedures necessary to participate in program	June 1993
Publicize program availability to Palmdale residents	July 1993

***Program H2.F:** Mobile Home Space Rent Control*

Based on an identified need to maintain affordability of mobile home lease costs, this ordinance, adopted in August 1990 imposes restrictions on increases in lease costs for mobile home park spaces.

Responsible Agency: Mobile Home Park Rental Review Board

Implementation Actions: Continue to implement an existing program.

***Program H2.G:** Mobile Home Park Lease Terms Ordinance*

This ordinance, adopted on May 14, 1992, amends the City's mobile home space rent control ordinance to prevent owners from circumventing rent control by refusing to offer new tenants a lease term of 12 months or less. Under existing state law, longer leases are exempt from rent control. The ordinance currently states that no owner may

require any resident or prospective resident to sign a lease or rental agreement that exempts the space from local rent control.

Responsible Agency: City Council

Implementation Actions	Target Date
Develop complaint procedures and enforcement mechanisms	January 1993

Program H2.H: Mobile Home Park Homeownership and Rehabilitation

Develop a program to assist residents of mobile home parks occupied chiefly by low income families and seniors to purchase their parks and own them cooperatively. Provide grant funding to rehabilitate park spaces, hook-ups and grounds to meet City Habitability Standards for mobile home parks. Provide City funds for predevelopment expenses and utilize the state's Mobile Home Park Resident Ownership Program as appropriate.

Quantified Objective: Provide assistance to tenants of one park 1992-1994

Responsible Agency: Redevelopment Agency

Implementation Actions	Target Date
Work with Mobile Home Task Force to develop recommendations and submit to City Council	November 1993
Develop guidelines and budget for recommended program	March 1994

Program H2.I: Mobile Home Park Task Force

Convene a task force with representatives from the City, mobile home park owners, tenants of mobile home parks and lenders. The purpose of this task force will be to facilitate negotiations between park tenants and owners on a variety of issues.

Responsible Agency: Redevelopment Agency

Implementation Actions	Target Date
Convene task force and initiate deliberations	November 1992

Program H2.J: *Comprehensive Neighborhood Improvement Program*

Develop a comprehensive program to improve neighborhood quality by enforcing compliance with building, safety, health, fire, law enforcement and other regulations in rental and ownership housing. This program could utilize a coordinated team of officials from the City, Sheriff's Department, Health Department, Fire Department and other agencies. The team would cite building owners for deficiencies and seek enforcement of all application regulations.

Responsible Agency: The City Administrator would serve as coordinator.

Implementation Actions	Target Date
Design a program in cooperation with other agencies and submit for approval.	June 1993

Objective H2.2: Preserve existing units currently assisted by the federal, state or local government.

Policy H2.2.1: Provide information and financial assistance to tenants of at-risk units to ensure preservation.

Policy H2.2.2: Preserve or replace all units with expiring subsidies.

Policy H2.2.3: Prevent or minimize displacement of low-income tenants in any at-risk properties.

Program H2.K: *Tenant Assistance Program*

Develop a program to provide information and assistance to residents in federally assisted units with expiring subsidies. Work closely with resident associations to facilitate preservation of at-risk units.

Quantified Objective: Preserve 122 units of Section 236 housing at risk in the period 1989-1994 through either continued operation by current owner or purchase by tenants or another nonprofit organization.

Responsible Agency: Redevelopment

Implementation Actions	Target Date
Develop a tenant information program	January 1993
Publish a City phone number where tenants can call for information	January 1993
Place a copy of the Preservation Amendment and other preservation documents in the Public Library	August 1992
Develop a grant program for tenant assistance	June 1993

Program H2.L: Mortgage Revenue Bond Refinance Program

In rental housing financed with locally issued mortgage revenue bonds, develop standards and implement a program to refinance projects when rent restrictions expire, in order to preserve the City's supply of affordable housing. Conditions assessed in considering a refinance should be the number of low income households occupying the restricted units, and the willingness of the owner to make units affordable to households at 50% of median, annually certify income eligibility and extend affordability for 15 years.

Responsible Agency: Redevelopment Agency

Implementation Actions	Target Date
Develop refinance guidelines	June 1993

GOAL H3: Increase the capacity of the City to develop and implement housing programs.

Objective H3.1: Administer adequate housing programs to meet the needs of all Palmdale residents.

Policy H3.1.1: Expand the responsibilities, authority, and activities of the City's Housing Section to match the growth of the city.

Policy H3.1.2: Support development of new entities capable of developing and operating permanently affordable housing.

Program H3.A: Housing Needs Assessment

Conduct a housing needs assessment to determine the need for all types of housing assistance in the city.

Responsible Agency: Redevelopment Agency

Implementation Actions	Target Date
Conduct a needs assessment in the course of preparing a Comprehensive Housing Affordability Strategy	September 15, 1992

Program H3.B: Community Development Block Grant Program

Apply to become an entitlement city under the federal Community Development Block Grant program.

Responsible Agency: Redevelopment Agency.

Implementation Action	Target Date
Prepare and submit application for designation as an entitlement community.	October 1993

Program H3.C: Mortgage Revenue Bonds

The mortgage revenue bond program provides project financing to rental housing at below market interest rates. Developers must agree to make 20% of the units available at rates affordable to very low income households for the duration of the bond financing, usually between ten and 15 years.

Responsible Agency: Redevelopment Agency

Implementation Actions	Target Date
Develop refinance guidelines.	June 1993

GOAL H4: Promote equal housing for all persons regardless of race, religion, sex, marital status, ancestry, national origin, color, age or physical condition.

Objective H4.1: Promote fair housing practices and prohibit discrimination.

Policy H4.1.1: Ensure compliance with fair housing laws by adopting development guidelines that encourage the development of mixed income housing in every zone district and in every area of the community.

Policy H4.1.2: Actively promote fair housing practices through public information.

Policy H4.1.3: Prohibit discrimination in housing.

Program H4.A: Fair Housing Public Information Program

Cooperate with the County's designated Fair Housing Council for this area to develop a public information program on fair housing law.

Responsible Agency: Redevelopment Agency

Implementation Actions	Target Date
Contact the fair housing agency and begin development of a program	March 1993

Program H4.B: Fair Housing Affirmative Marketing Practices

Cooperate with the designated Fair Housing Council to ensure that developers of new housing, realtors and managers of rental housing comply with affirmative marketing practices.

Responsible Agency: Redevelopment Agency and City Attorney

Implementation Actions: Cooperate in an existing program.

GOAL H5: Adequately house households with special needs.

Objective H5.1: Expand the housing supply which is affordable for senior citizens.

Policy H5.1.1: Permit a variety of housing types for seniors including dependent housing units and congregate housing with services.

Policy H5.1.2: Support independent living for the elderly and disabled.

Policy H5.1.3: Establish and maintain design standards for units designated as senior units to ensure that these units are accessible and convenient for older persons.

Policy H5.1.4: Assess the ongoing needs for senior housing.

***Program H5.A:** Senior Housing Program*

This program will actively facilitate the development of new affordable rental and/or ownership units for seniors through provision of a variety of incentives that could include a predevelopment loan, expedited processing and land write-downs. Encourage the development of one HUD Section 202 elderly housing project.

Quantified Objective: 25 units in current planning period.

Responsible Agency: Planning Department Housing Section.

Implementation Actions	Target Date
Develop program guidelines and identify appropriate sites, incentives and subsidies.	January 1993

***Program H5.B:** Senior Housing Design Review Program*

Develop a review process to ensure that units designated as senior units are accessible and meet established design guidelines for such units.

Responsible Agency: Planning Department

Implementation Actions	Target Date
Develop guidelines and a review procedure.	January 1993

Program H5.C: Senior Housing Market Survey

Cooperate with developers, community agencies or other organizations to assess the need for senior housing in Palmdale.

Responsible Agency: Redevelopment Agency

Implementation Action: Cooperate with entities conducting market studies as necessary and appropriate.

Program H5.D: Develop a dependent housing unit ordinance.

Under California Government Code 65852.1, develop a dependent unit ordinance to meet the needs of the City's families.

Responsible Agency: Planning Department

Implementation Actions	Target Date
Develop an ordinance and submit for approval.	June 1994

Objective H5.2: Address the problems of homeless persons.

Policy H5.2.1: Designate sites or land use categories where the development of shelters for the homeless is permitted.

Policy H5.2.2: Conduct a study to determine the number of homeless persons in the City.

Policy H5.2.3: Assess the service and shelter needs of homeless individuals and families in the City.

Policy H5.2.4: Develop a policy on homeless shelter and services to meet the needs of homeless families and individuals in the City.

Program H5.E: Homeless Persons Facilities Designation

In compliance with state housing law, permit the development of emergency shelters and transitional housing facilities for the homeless in areas of the City designated C-3 and in areas designated R-3 with a conditional use permit.

Responsible Agency: Planning Department.

Implementation Actions:	Target Date
Adopt Land Use Element and amend Zoning Code	1992-93

Program H5.F: Transitional Housing Designation

In accordance with state housing law, permit the development of transitional housing to provide housing and services for formerly homeless persons in the C-3 and R-3 zones.

Responsible Agency: Planning Department.

Implementation Actions: Adopt Land Use Element and amend Zoning Code, 1992-93.

Program H5.G: SAVES Program

The City provides administrative funding to the South Antelope Valley Emergency Services Program (SAVES) which provides housing vouchers, food baskets, and funds for rehabilitation of the Senior Center from the city's CDBG allocation.

Responsible Agency: City Administrator

Implementation Actions: Continue to participate in an existing program.

Objective H5.3: Encourage an increase in the supply of large family housing.

Policy H5.3.1: Encourage an increase in the supply of three and four bedroom rental units available to lower income households with large families.

Program H5.H: Large Family Rental Unit Program

Develop a mechanism to encourage housing developments to provide affordable three and four bedroom rental units to meet the needs of large families.

Responsible Agency: Redevelopment Agency

Implementation Actions:	Target Date
Develop criteria to prioritize some redevelopment. Set aside funds for large units.	June 1993

Objective H5.4: Increase handicapped access to housing.

Policy H5.4.1: Develop programs to ensure access for the disabled in residential, commercial and public structures.

Policy H5.4.2: Provide assistance to lower income households in retrofitting their homes for handicapped access.

Policy H5.4.3: Provide a public education campaign to eliminate discrimination affecting persons with physical, mental or development disabilities in employment and housing.

Program H5.I: *Handiworker Program (See Program H2.B)*

Program H5.J: *Accessibility Guidelines*

Develop a single standard for meeting the multiple handicapped access requirements of California Administrative Code, Title 24, and the 1991 federal Americans with Disabilities Act. Require that all new multi-family residential developments, including those serving low income or elderly households, conform to this handicapped access standard.

Responsible Agency: Department of Building and Safety.

Implementation Actions	Target Date
Develop guidelines and publish	June 1993

Program H5.K: *Public Information Program on Access (Proposed)*

In cooperation with an appropriate agency, develop a public information program on the guidelines of the 1991 Americans with Disabilities Act to ensure that both public and private organizations and individuals in the City of Palmdale understand the rights of disabled persons with respect to housing, transportation, public facilities and employment.

Responsible Agency: Redevelopment Agency

Implementation Actions	Target Date
Contact an appropriate agency to develop an information program.	June 1993

Objective H5.5 Expand rental assistance to the City's lower income and special needs households.

Policy H5.5.1: Work with the Los Angeles County Housing Authority to reach out to and target rental assistance for households of greatest need including homeless persons, very low income households, large families, female heads of households, and the handicapped.

Policy H5.5.2: Work with operators of subsidized rental housing in the City to ensure full compliance with required rent restrictions and to ensure full occupancy of subsidized units by eligible households.

***Program H5.L:** Section 8 Certificate and Voucher Program*

The Housing Authority of the County of Los Angeles administers the Section 8 rental assistance program. Eligible Palmdale residents may apply to the housing authority for Section 8 certificates or vouchers.

Responsible Agency: Housing Authority of the County of Los Angeles

Implementation Actions	Target Date
The housing authority will continue to operate an existing program.	Ongoing
Identify barriers to utilization of homeless assistance certificates.	August 1992

Objective H5.6: Coordinate social services with housing to meet the needs of households with special needs.

Policy H5.6.1: Require that all special needs housing developments be located near needed services and transportation.

***Program H5.M:** Special Needs Site Review*

Conduct a site review of all proposed special needs housing developments to ensure that they are located near needed services and transportation.

Responsible Agency: Planning Department

Implementation Actions	Target Date
Develop procedures for site review.	June 1993

Policy H5.6.2: Encourage the development of adequate child care facilities to meet the needs of all the City's families.

***Program H5.N:** Child Care*

Assess the adequacy of child care facilities in the City. Cooperate with providers to facilitate the expansion of child care opportunities in the City to meet the needs of all working households. Develop a Zoning Ordinance to facilitate the provision of family day care for six to ten children by home- based providers. Coordinate with the school district to encourage after school programs.

Responsible Agency: Redevelopment Agency and Planning Department.

Implementation Actions	Target Date
Cooperate with providers in the development of a proposed child care facility.	Ongoing
Conduct a study to determine need for child care.	June 1994
Assess the need for a zoning ordinance for home family day-care.	June 1994

GOAL H6: Implement energy and water conservation measures.

Objective H6.1: Require all newly constructed housing to utilize a full range of water and energy conservation measures.

Policy H6.1.1: Minimize the consumption of scarce natural resources in residential areas.

Policy H6.1.2: Encourage the full utilization of solar heating and cooling in new development.

Policy H6.1.3: Encourage the layout of subdivisions, design of individual homes, and choice of mechanical systems to reduce energy usage. Promote passive solar energy design.

***Program H6.A:** Energy and Water Conservation Checklist*

Develop an energy and water conservation checklist for each new development.

Responsible Agency: Planning Department.

Implementation Action: Develop a checklist and begin implementation by June 1993.

***Program H6.B:** Xeriscape Program*

Incorporate landscaping standards requiring xeriscape as a condition of approval for all subdivisions and housing projects.

Responsible Agency: Engineering Department.

Implementation Action: Continue an ongoing program.

***Program H6.C:** Desert Housing Type Demonstration Program*

Encourage the development of housing types, site plans and landscape design appropriate to the desert environment. Special construction and plant materials, architectural features and building orientation will be included. Develop a package of incentives to be offered to developers who include such housing types in new subdivisions.

Responsible Agency: Planning Department

Implementation Actions	Target Date
Design program guidelines and submit recommendations.	June 1993

Program H6.D: Conservation Code Program

Continue to enforce all Uniform Building Code and California Administrative Code Title 24 conservation measures.

Responsible Agency: Department of Building and Safety.

Implementation Actions: Continue an existing program.

Objective H6.2: Provide information and assistance to the public about energy and water saving modifications for existing housing.

Policy H6.2.1: Cooperate with local water districts in the adoption of voluntary water conservation measures during water supply shortages and emergencies as prescribed.

Program H6.E: Energy Saving Modifications Assistance

Cooperate with utility companies to inform public about energy saving modifications for existing housing.

Responsible Agency: Planning Department and Building and Safety.

Implementation Actions: Continue an existing program.

Program H6.F: Handiworker Program (See Program H2.B.)

Program H2.G: Xeriscape Demonstration Garden

Install a xeriscaped demonstration garden at City Hall to inform the public about gardening with native plants.

Responsible Agency: Public Works

Implementation Actions	Target Date
Develop a design and budget and submit for approval.	June 1993

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES

ISSUE	LAND USE ELEMENT							
	1.1.1	1.1.2	1.1.3	1.1.4	1.2.1	1.2.2	1.2.3	1.2.4
Geology								
Soils			*					
Seismic			*	*				
Air Quality			*					
Water Resources			*					
Biological Resources								
Vegetation	*		*	*				
Wildlife	*		*	*				
Natural Resources			*					
Land Use	*	*	*	*	*	*	*	*
Population			*					
Housing			*					
Transportation/Circulation	*		*	*				*
Public Services								
Fire Protection			*					
Police Protection			*					
Schools			*					
Parks and Recreation			*					
Libraries			*					
Hospital			*					
Public Utilities								
Water	*		*	*				*
Sewer	*		*	*				*
Solid Waste	*		*	*				*
Storm Drainage	*		*	*				*
Power	*		*	*				*
Natural Gas	*		*	*				*
Telephone	*		*	*				*
Cable	*		*	*				*
Risk of Upset								
Seismic Hazards			*	*				
Aircraft Crash Potential			*					
Hazardous Materials			*					
Noise			*					
Light and Glare			*					
Aesthetics			*					
Cultural Resources								
Historical Resouces			*					
Archaeological Resources			*					
Paleontological Resources			*					

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	LAND USE ELEMENT							
	1.2.5	1.2.6	1.3.1	1.3.2	1.3.3	1.4.1	1.4.2	1.4.3
Geology								
Soils		*						*
Seismic		*		*			*	*
Air Quality						*		
Water Resources		*						
Biological Resources								
Vegetation		*	*					*
Wildlife		*	*					*
Natural Resources		*				*		
Land Use	*	*	*	*	*	*	*	*
Population								
Housing						*	*	*
Transportation/Circulation		*	*					
Public Services								
Fire Protection		*						
Police Protection		*						
Schools		*						
Parks and Recreation		*						
Libraries		*						
Hospital		*						
Public Utilities								
Water		*	*					
Sewer		*	*					
Solid Waste		*	*					
Storm Drainage		*	*					
Power		*	*					
Natural Gas		*	*					
Telephone		*	*					
Cable		*	*					
Risk of Upset								
Seismic Hazards		*		*			*	*
Aircraft Crash Potential		*		*	*			
Hazardous Materials		*						
Noise		*		*	*	*		
Light and Glare		*		*	*			
Aesthetics		*		*	*	*		*
Cultural Resources								
Historical Resouces		*						
Archaeological Resources		*						
Paleontological Resources		*						

TABLE 1-2

MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	LAND USE ELEMENT							
	1.4.4	1.5.1	2.1.1	2.1.2	2.1.3	2.1.4	2.1.5	2.1.6
Geology								
Soils								
Seismic								
Air Quality							*	*
Water Resources								
Biological Resources								
Vegetation								
Wildlife								
Natural Resources								
Land Use	*	*	*	*	*	*	*	*
Population								
Housing		*						*
Transportation/Circulation							*	
Public Services								
Fire Protection		*						
Police Protection		*						
Schools		*						
Parks and Recreation		*						
Libraries		*						
Hospital		*						
Public Utilities								
Water		*						
Sewer		*						
Solid Waste		*						
Storm Drainage		*						
Power								
Natural Gas								
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential	*							
Hazardous Materials								
Noise	*							
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	LAND USE ELEMENT							
	2.1.7	2.1.8	2.2.1	2.2.2	2.2.3	2.2.4	2.2.5	2.2.6
Geology								
Soils								
Seismic				*				
Air Quality		*						
Water Resources								
Biological Resources								
Vegetation				*				
Wildlife				*				
Natural Resources				*				
Land Use	*		*	*	*		*	*
Population			*					
Housing			*	*				
Transportation/Circulation		*		*	*			
Public Services								
Fire Protection								
Police Protection								
Schools								
Parks and Recreation								
Libraries								
Hospital								
Public Utilities								
Water				*	*			
Sewer				*	*			
Solid Waste				*	*			
Storm Drainage				*	*			
Power				*	*			
Natural Gas				*	*			
Telephone				*	*			
Cable				*	*			
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	LAND USE ELEMENT							
	2.3.1	2.4.1	2.4.2	3.1.1	3.2.1	3.2.2	3.2.3	3.2.4
Geology								
Soils								
Seismic								
Air Quality								
Water Resources								
Biological Resources								
Vegetation								
Wildlife								
Natural Resources								
Land Use	*	*	*	*	*	*	*	*
Population	*			*	*	*		
Housing	*	*		*	*	*	*	*
Transportation/Circulation	*					*		
Public Services								
Fire Protection								
Police Protection								
Schools								
Parks and Recreation	*							
Libraries								
Hospital								
Public Utilities								
Water	*							
Sewer	*							
Solid Waste	*							
Storm Drainage	*							
Power								
Natural Gas								
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics	*						*	
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	LAND USE ELEMENT							
	3.2.5	3.3.1	3.3.2	3.3.3	3.4.1	3.4.2	3.4.3	3.4.4
Geology								
Soils					*			*
Seismic					*			
Air Quality								
Water Resources								
Biological Resources								
Vegetation					*			
Wildlife					*			
Natural Resources					*			
Land Use	*	*	*	*	*	*	*	*
Population								
Housing	*	*	*	*	*	*		*
Transportation/Circulation								
Public Services								
Fire Protection								
Police Protection								
Schools								
Parks and Recreation								
Libraries								
Hospital								
Public Utilities								
Water								
Sewer								
Solid Waste								
Storm Drainage								
Power								
Natural Gas								
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	LAND USE ELEMENT							
	3.4.5	3.5.1	3.5.2	3.5.3	3.5.4	3.6.1	3.6.2	3.6.3
Geology								
Soils								
Seismic								
Air Quality								
Water Resources								
Biological Resources								
Vegetation								
Wildlife								
Natural Resources								
Land Use	*	*	*		*	*	*	*
Population								
Housing	*	*	*	*	*	*	*	*
Transportation/Circulation	*		*					
Public Services								
Fire Protection		*	*					
Police Protection		*	*			*		
Schools	*		*					
Parks and Recreation	*	*	*		*			
Libraries								
Hospital								
Public Utilities								
Water	*							
Sewer	*							
Solid Waste	*							
Storm Drainage	*							
Power	*							
Natural Gas	*							
Telephone	*							
Cable	*							
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics				*		*	*	*
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	LAND USE ELEMENT							
	3.6.4	4.1.1	4.2.1	4.2.2	4.2.3	4.2.4	4.2.5	4.2.6
Geology								
Soils								
Seismic								
Air Quality								
Water Resources								
Biological Resources								
Vegetation								
Wildlife								
Natural Resources								
Land Use	*	*	*	*	*	*	*	*
Population								
Housing	*						*	
Transportation/Circulation								
Public Services								
Fire Protection								
Police Protection	*							
Schools								
Parks and Recreation								
Libraries								
Hospital								
Public Utilities								
Water								
Sewer								
Solid Waste								
Storm Drainage								
Power								
Natural Gas								
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics	*							
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	LAND USE ELEMENT						
	4.2.7	4.2.8	4.2.9	4.2.10	4.2.11	4.2.12	4.2.13
Geology							
Soils							
Seismic							
Air Quality							
Water Resources							
Biological Resources							
Vegetation							
Wildlife							
Natural Resources							
Land Use	*	*	*	*	*	*	*
Population							
Housing		*	*				
Transportation/Circulation							
Public Services							
Fire Protection							
Police Protection							
Schools							
Parks and Recreation							
Libraries							
Hospital							
Public Utilities							
Water							
Sewer							
Solid Waste							
Storm Drainage							
Power							
Natural Gas							
Telephone							
Cable							
Risk of Upset							
Seismic Hazards							
Aircraft Crash Potential							
Hazardous Materials							
Noise							
Light and Glare							
Aesthetics		*	*		*		*
Cultural Resources							
Historical Resouces							
Archaeological Resources							
Paleontological Resources							

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	LAND USE ELEMENT						
	4.2.14	5.1.1	5.2.1	5.2.2	5.2.3	5.2.4	5.2.5
Geology							
Soils							
Seismic							
Air Quality							
Water Resources							
Biological Resources							
Vegetation							
Wildlife							
Natural Resources							
Land Use	*	*	*	*	*	*	*
Population							
Housing							
Transportation/Circulation					*		
Public Services							
Fire Protection							
Police Protection							
Schools							
Parks and Recreation							
Libraries							
Hospital							
Public Utilities							
Water					*		
Sewer					*		
Solid Waste							
Storm Drainage							
Power					*		
Natural Gas					*		
Telephone					*		
Cable							
Risk of Upset							
Seismic Hazards							
Aircraft Crash Potential							
Hazardous Materials							
Noise							
Light and Glare							
Aesthetics	*			*	*		
Cultural Resources							
Historical Resouces							
Archaeological Resources							
Paleontological Resources							

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	LAND USE ELEMENT				
	5.2.6	5.2.7	6.1.1	6.2.1	6.2.2
Geology					
Soils	*				
Seismic					
Air Quality		*			
Water Resources					
Biological Resources					
Vegetation				*	
Wildlife				*	
Natural Resources				*	
Land Use	*	*	*	*	*
Population					
Housing					
Transportation/Circulation					
Public Services					
Fire Protection					
Police Protection					
Schools			*		
Parks and Recreation			*	*	
Libraries					
Hospital					
Public Utilities					
Water					
Sewer					
Solid Waste					
Storm Drainage					
Power					
Natural Gas					
Telephone					
Cable					
Risk of Upset					
Seismic Hazards					
Aircraft Crash Potential					
Hazardous Materials		*			
Noise		*			
Light and Glare		*			
Aesthetics					
Cultural Resources					
Historical Resouces					
Archaeological Resources					
Paleontological Resources					

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	CIRCULATION ELEMENT						
	1.1.1	1.1.2	1.1.3	1.1.4	1.1.5	1.1.6	1.1.7
Geology							
Soils							
Seismic							
Air Quality							
Water Resources							
Biological Resources							
Vegetation					*		
Wildlife					*		
Natural Resources							
Land Use					*	*	*
Population							
Housing					*		
Transportation/Circulation	*	*	*	*	*	*	*
Public Services							
Fire Protection							
Police Protection							
Schools							
Parks and Recreation							
Libraries							
Hospital							
Public Utilities							
Water							
Sewer							
Solid Waste							
Storm Drainage							
Power							
Natural Gas							
Telephone							
Cable							
Risk of Upset							
Seismic Hazards							
Aircraft Crash Potential							
Hazardous Materials							
Noise							
Light and Glare							
Aesthetics							
Cultural Resources							
Historical Resouces							
Archaeological Resources							
Paleontological Resources							

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	CIRCULATION ELEMENT							
	1.1.8	1.2.1	1.2.2	1.2.3	1.2.4	1.3.1	1.4.1	1.4.2
Geology								
Soils								
Seismic								
Air Quality								
Water Resources								
Biological Resources								
Vegetation								
Wildlife								
Natural Resources								
Land Use								*
Population								
Housing								
Transportation/Circulation	*	*	*	*	*	*	*	*
Public Services								
Fire Protection								
Police Protection								
Schools								
Parks and Recreation								
Libraries								
Hospital								
Public Utilities								
Water								
Sewer								
Solid Waste								
Storm Drainage								
Power								
Natural Gas								
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	CIRCULATION ELEMENT							
	1.4.3	1.4.4	1.4.5	1.4.6	1.5.1	1.5.2	1.6.1	1.6.2
Geology								
Soils								
Seismic								
Air Quality								
Water Resources								
Biological Resources								
Vegetation								
Wildlife								
Natural Resources								
Land Use								
Population								
Housing								
Transportation/Circulation	*	*	*	*	*	*	*	*
Public Services								
Fire Protection		*						
Police Protection		*						
Schools								
Parks and Recreation								
Libraries								
Hospital								
Public Utilities								
Water								
Sewer								
Solid Waste								
Storm Drainage								
Power								
Natural Gas								
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	CIRCULATION ELEMENT							
	1.7.1	1.7.2	1.7.3	1.8.1	1.8.2	1.8.3	2.1.1	2.1.2
Geology								
Soils								
Seismic								
Air Quality							*	*
Water Resources								
Biological Resources								
Vegetation								
Wildlife								
Natural Resources								
Land Use								
Population								
Housing								
Transportation/Circulation	*	*	*	*	*	*	*	*
Public Services								
Fire Protection								
Police Protection								
Schools								
Parks and Recreation								
Libraries								
Hospital								
Public Utilities								
Water								
Sewer								
Solid Waste								
Storm Drainage								
Power								
Natural Gas								
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	CIRCULATION ELEMENT							
	2.1.3	2.1.4	2.1.5	2.1.6	2.2.1	2.2.2	2.2.3	2.2.4
Geology								
Soils								
Seismic								
Air Quality	*	*	*	*	*	*	*	*
Water Resources								
Biological Resources								
Vegetation								
Wildlife								
Natural Resources								
Land Use								
Population								
Housing	*							
Transportation/Circulation	*	*	*	*	*	*	*	*
Public Services								
Fire Protection								
Police Protection								
Schools								
Parks and Recreation								
Libraries								
Hospital								
Public Utilities								
Water								
Sewer								
Solid Waste								
Storm Drainage								
Power								
Natural Gas								
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	CIRCULATION	HOUSING ELEMENT				
	5.2.3	1.1.1	1.1.2	1.1.3	1.2.1	1.2.2
Geology						
Soils						
Seismic						
Air Quality						
Water Resources						
Biological Resources						
Vegetation						
Wildlife						
Natural Resources						
Land Use	*					
Population						
Housing		*	*	*	*	*
Transportation/Circulation	*			*		
Public Services						
Fire Protection				*		
Police Protection				*		
Schools				*		
Parks and Recreation				*		
Libraries				*		
Hospital				*		
Public Utilities						
Water				*		
Sewer				*		
Solid Waste				*		
Storm Drainage				*		
Power				*		
Natural Gas				*		
Telephone				*		
Cable				*		
Risk of Upset						
Seismic Hazards						
Aircraft Crash Potential						
Hazardous Materials						
Noise						
Light and Glare						
Aesthetics						
Cultural Resources						
Historical Resouces						
Archaeological Resources						
Paleontological Resources						

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	CIRCULATION ELEMENT							
	4.1.2	4.2.1	4.2.2	5.1.1	5.1.2	5.1.3	5.2.1	5.2.2
Geology								
Soils								
Seismic								
Air Quality		*	*					
Water Resources								
Biological Resources								
Vegetation								
Wildlife								
Natural Resources								
Land Use				*	*	*	*	*
Population								
Housing								
Transportation/Circulation	*	*	*	*	*	*	*	*
Public Services								
Fire Protection								
Police Protection								
Schools								
Parks and Recreation								
Libraries								
Hospital								
Public Utilities								
Water								
Sewer								
Solid Waste								
Storm Drainage								
Power								
Natural Gas								
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential					*			
Hazardous Materials								
Noise					*			
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	HOUSING ELEMENT							
	1.2.3	1.3.1	1.3.2	1.4.1	1.4.2	1.5.1	1.5.2	2.1.1
Geology								
Soils								
Seismic								
Air Quality								
Water Resources								
Biological Resources								
Vegetation								
Wildlife								
Natural Resources								
Land Use								
Population								
Housing	*	*	*	*	*	*	*	*
Transportation/Circulation								
Public Services								
Fire Protection								
Police Protection								
Schools								
Parks and Recreation								
Libraries								
Hospital								
Public Utilities								
Water								
Sewer								
Solid Waste								
Storm Drainage								
Power								
Natural Gas								
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	HOUSING ELEMENT							
	2.1.2	2.1.3	2.1.4	2.1.5	2.2.1	2.2.2	2.2.3	3.1.1
Geology								
Soils								
Seismic								
Air Quality								
Water Resources								
Biological Resources								
Vegetation								
Wildlife								
Natural Resources								
Land Use				*				
Population								
Housing	*	*	*	*	*	*	*	*
Transportation/Circulation								
Public Services								
Fire Protection				*				
Police Protection				*				
Schools								
Parks and Recreation								
Libraries								
Hospital								
Public Utilities								
Water								
Sewer								
Solid Waste								
Storm Drainage								
Power								
Natural Gas								
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	HOUSING ELEMENT							
	3.1.2	4.1.1	4.1.2	4.1.3	5.1.1	5.1.2	5.1.3	5.1.4
Geology								
Soils								
Seismic								
Air Quality								
Water Resources								
Biological Resources								
Vegetation								
Wildlife								
Natural Resources								
Land Use								
Population								
Housing	*	*	*	*	*	*	*	*
Transportation/Circulation								
Public Services								
Fire Protection								
Police Protection								
Schools								
Parks and Recreation								
Libraries								
Hospital								
Public Utilities								
Water								
Sewer								
Solid Waste								
Storm Drainage								
Power								
Natural Gas								
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	HOUSING ELEMENT							
	5.2.1	5.2.2	5.2.3	5.2.4	5.3.1	5.4.1	5.4.2	5.4.3
Geology								
Soils								
Seismic								
Air Quality								
Water Resources								
Biological Resources								
Vegetation								
Wildlife								
Natural Resources								
Land Use	*							
Population								
Housing	*	*	*	*	*	*	*	*
Transportation/Circulation								
Public Services								
Fire Protection								
Police Protection								
Schools								
Parks and Recreation								
Libraries								
Hospital								
Public Utilities								
Water								
Sewer								
Solid Waste								
Storm Drainage								
Power								
Natural Gas								
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	HOUSING ELEMENT							
	5.5.1	5.5.2	5.6.1	5.6.2	6.1.1	6.1.2	6.1.3	6.2.1
Geology								
Soils								
Seismic								
Air Quality								
Water Resources								
Biological Resources								
Vegetation								
Wildlife								
Natural Resources					*			
Land Use								
Population								
Housing	*	*	*	*	*	*	*	*
Transportation/Circulation			*					
Public Services								
Fire Protection								
Police Protection								
Schools								
Parks and Recreation								
Libraries								
Hospital								
Public Utilities								
Water					*			*
Sewer								*
Solid Waste								
Storm Drainage								
Power					*	*	*	
Natural Gas					*	*	*	
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	ENVIRONMENTAL RESOURCES MANAGEMENT ELEMENT							
	1.1.1	1.1.2	1.1.3	1.1.4	1.1.5	1.1.6	1.2.1	1.2.2
Geology								
Soils						*		
Seismic						*		
Air Quality								
Water Resources								
Biological Resources								
Vegetation								
Wildlife								
Natural Resources	*	*	*	*	*	*	*	*
Land Use	*	*		*	*	*	*	
Population								
Housing								
Transportation/Circulation	*	*						*
Public Services								
Fire Protection								
Police Protection								
Schools								
Parks and Recreation	*	*	*	*	*	*		
Libraries								
Hospital								
Public Utilities								
Water								
Sewer								
Solid Waste								
Storm Drainage								
Power								
Natural Gas								
Telephone								
Cable								
Risk of Upset								
Seismic Hazards						*		
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics							*	*
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	ENVIRONMENTAL RESOURCES MANAGEMENT							
	2.1.1	2.1.2	2.1.3	2.1.4	2.1.5	3.1.1	3.1.2	3.1.3
Geology								
Soils						*	*	*
Seismic								
Air Quality								
Water Resources	*	*	*	*				*
Biological Resources								
Vegetation	*	*	*	*	*			
Wildlife	*	*	*	*	*			
Natural Resources	*	*	*	*				
Land Use	*	*				*	*	*
Population								
Housing								
Transportation/Circulation								
Public Services								
Fire Protection								
Police Protection								
Schools								
Parks and Recreation		*						
Libraries								
Hospital								
Public Utilities								
Water								*
Sewer								
Solid Waste								
Storm Drainage								
Power								
Natural Gas								
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics							*	
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	ENVIRONMENTAL RESOURCE MANAGEMENT							
	3.1.4	3.1.5	4.1.1	4.1.2	4.1.3	4.1.4	4.1.5	4.2.1
Geology								
Soils		*						
Seismic								
Air Quality								
Water Resources			*	*	*	*	*	*
Biological Resources								
Vegetation	*		*					*
Wildlife	*		*					
Natural Resources	*				*			
Land Use	*				*		*	
Population								
Housing								
Transportation/Circulation								
Public Services								
Fire Protection								
Police Protection								
Schools								
Parks and Recreation								
Libraries								
Hospital								
Public Utilities								
Water			*		*			*
Sewer						*		
Solid Waste								
Storm Drainage				*				
Power								
Natural Gas								
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics		*						
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	ENVIRONMENTAL RESOURCE MANAGEMENT							
	4.2.2	4.2.3	4.2.4	5.1.1	5.1.2	5.1.3	5.1.4	5.1.5
Geology								
Soils								
Seismic								
Air Quality				*	*	*	*	*
Water Resources	*		*					
Biological Resources								
Vegetation	*							
Wildlife								
Natural Resources								
Land Use								
Population								
Housing								
Transportation/Circulation				*	*	*	*	*
Public Services								
Fire Protection								
Police Protection								
Schools								
Parks and Recreation								
Libraries								
Hospital								
Public Utilities								
Water	*	*	*					
Sewer								
Solid Waste								
Storm Drainage								
Power								
Natural Gas								
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	ENVIRONMENTAL RESOURCE MANAGEMENT							
	5.1.6	5.2.1	5.2.2	5.2.3	5.3.1	5.3.2	5.3.3	5.4.1
Geology								
Soils		*	*	*				
Seismic								
Air Quality	*	*	*	*	*	*	*	*
Water Resources								
Biological Resources								
Vegetation								
Wildlife								
Natural Resources								
Land Use								
Population								
Housing								
Transportation/Circulation	*				*	*		
Public Services								
Fire Protection								
Police Protection								
Schools								
Parks and Recreation								
Libraries								
Hospital								
Public Utilities								
Water								
Sewer								
Solid Waste								
Storm Drainage								
Power								
Natural Gas								
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	ENVIRONMENTAL RESOURCE MANAGEMENT							
	5.4.2	5.5.1	5.5.2	5.5.3	5.6.1	5.6.2	5.6.3	5.6.4
Geology								
Soils								
Seismic								
Air Quality	*	*			*	*	*	*
Water Resources								
Biological Resources								
Vegetation								
Wildlife								
Natural Resources								
Land Use	*							
Population								
Housing							*	
Transportation/Circulation					*	*	*	*
Public Services								
Fire Protection								
Police Protection								
Schools								
Parks and Recreation								
Libraries								
Hospital								
Public Utilities								
Water								
Sewer								
Solid Waste			*					
Storm Drainage								
Power		*		*				
Natural Gas		*		*				
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	ENVIRONMENTAL RESOURCE MANAGEMENT							
	6.1.1	6.1.2	6.1.3	6.1.4	6.1.5	6.2.1	6.2.2	6.2.3
Geology								
Soils								
Seismic								
Air Quality					*		*	
Water Resources					*	*	*	*
Biological Resources								
Vegetation					*		*	*
Wildlife					*		*	*
Natural Resources	*	*	*	*	*	*	*	*
Land Use	*	*	*	*	*	*		*
Population								
Housing								
Transportation/Circulation					*			
Public Services								
Fire Protection								
Police Protection								
Schools								
Parks and Recreation								
Libraries								
Hospital								
Public Utilities								
Water								
Sewer								
Solid Waste								
Storm Drainage								
Power								
Natural Gas								
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise					*		*	
Light and Glare								
Aesthetics					*		*	
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	ENVIRONMENTAL RESOURCE MANAGEMENT							
	6.2.4	6.2.5	6.2.6	7.1.1	7.1.2	7.1.3	7.1.4	7.1.5
Geology								
Soils								
Seismic								
Air Quality								
Water Resources	*		*					
Biological Resources								
Vegetation								
Wildlife								
Natural Resources	*	*						
Land Use								
Population								
Housing								
Transportation/Circulation		*	*					
Public Services								
Fire Protection								
Police Protection								
Schools								
Parks and Recreation								
Libraries								
Hospital								
Public Utilities								
Water			*					
Sewer			*					
Solid Waste								
Storm Drainage			*					
Power								
Natural Gas								
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces				*	*	*	*	
Archaeological Resources						*	*	*
Paleontological Resources						*	*	

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	NOISE ELEMENT						
	1.1.1	1.1.2	1.1.3	1.1.4	1.1.5	1.2.1	1.2.2
Geology							
Soils							
Seismic							
Air Quality							
Water Resources							
Biological Resources							
Vegetation							
Wildlife							
Natural Resources							
Land Use	*	*		*	*	*	*
Population							
Housing					*		
Transportation/Circulation	*	*					
Public Services							
Fire Protection							
Police Protection							
Schools							
Parks and Recreation							
Libraries							
Hospital							
Public Utilities							
Water							
Sewer							
Solid Waste							
Storm Drainage							
Power							
Natural Gas							
Telephone							
Cable							
Risk of Upset							
Seismic Hazards							
Aircraft Crash Potential							
Hazardous Materials							
Noise	*	*	*	*	*	*	*
Light and Glare							
Aesthetics							
Cultural Resources							
Historical Resouces							
Archaeological Resources							
Paleontological Resources							

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, contin

ISSUE	NOISE ELEMENT				
	1.2.3	2.1.1	2.1.2	2.1.3	2.1.4
Geology					
Soils					
Seismic					
Air Quality					
Water Resources					
Biological Resources					
Vegetation					
Wildlife					
Natural Resources					
Land Use	*	*	*	*	*
Population					
Housing					
Transportation/Circulation					
Public Services					
Fire Protection					
Police Protection					
Schools					
Parks and Recreation					
Libraries					
Hospital					
Public Utilities					
Water					
Sewer					
Solid Waste					
Storm Drainage					
Power					
Natural Gas					
Telephone					
Cable					
Risk of Upset					
Seismic Hazards					
Aircraft Crash Potential					
Hazardous Materials					
Noise	*	*	*	*	*
Light and Glare					
Aesthetics					
Cultural Resources					
Historical Resouces					
Archaeological Resources					
Paleontological Resources					

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	SAFETY ELEMENT							
	1.1.1	1.1.2	1.1.3	1.1.4	1.1.5	1.1.6	1.1.7	1.1.8
Geology								
Soils	*	*	*					
Seismic	*	*	*	*	*	*	*	*
Air Quality								
Water Resources								
Biological Resources								
Vegetation								
Wildlife								
Natural Resources								
Land Use								
Population								
Housing								
Transportation/Circulation								
Public Services								
Fire Protection								
Police Protection								
Schools								
Parks and Recreation								
Libraries								
Hospital								
Public Utilities								
Water							*	
Sewer							*	
Solid Waste								
Storm Drainage								
Power							*	
Natural Gas							*	
Telephone								
Cable								
Risk of Upset								
Seismic Hazards	*	*	*	*	*	*	*	*
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	SAFETY ELEMENT						
	1.1.9	1.1.10	1.2.1	1.2.2	1.2.3	1.2.4	1.2.5
Geology							
Soils	*	*			*		
Seismic							
Air Quality							
Water Resources			*	*	*	*	*
Biological Resources							
Vegetation							
Wildlife							
Natural Resources							
Land Use							
Population							
Housing							
Transportation/Circulation						*	
Public Services							
Fire Protection							
Police Protection							
Schools							
Parks and Recreation							
Libraries							
Hospital							
Public Utilities							
Water							*
Sewer							*
Solid Waste							
Storm Drainage							*
Power							*
Natural Gas							*
Telephone							
Cable							
Risk of Upset							
Seismic Hazards							
Aircraft Crash Potential							
Hazardous Materials							
Noise							
Light and Glare							
Aesthetics							
Cultural Resources							
Historical Resouces							
Archaeological Resources							
Paleontological Resources							

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	SAFETY ELEMENT							
	1.2.6	1.2.7	1.2.8	1.2.9	1.2.10	1.2.11	1.2.12	1.2.13
Geology								
Soils	*							
Seismic								
Air Quality								
Water Resources	*	*	*	*	*	*	*	*
Biological Resources								
Vegetation				*	*			*
Wildlife				*	*			
Natural Resources								
Land Use			*		*	*		*
Population								
Housing								
Transportation/Circulation								
Public Services								
Fire Protection								
Police Protection								
Schools								
Parks and Recreation								
Libraries								
Hospital								
Public Utilities								
Water								
Sewer								
Solid Waste								
Storm Drainage	*	*				*	*	*
Power								
Natural Gas								
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	SAFETY ELEMENT							
	1.3.1	1.3.2	1.3.3	1.3.4	1.3.5	1.3.6	1.3.7	1.3.8
Geology								
Soils								
Seismic								
Air Quality								
Water Resources								
Biological Resources								
Vegetation								
Wildlife								
Natural Resources								
Land Use	*		*			*		
Population								
Housing								
Transportation/Circulation		*			*			
Public Services								
Fire Protection	*	*	*	*	*	*	*	*
Police Protection								
Schools								
Parks and Recreation								
Libraries								
Hospital								
Public Utilities								
Water								
Sewer								
Solid Waste								
Storm Drainage								
Power								
Natural Gas								
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	SAFETY ELEMENT						
	1.3.9	1.3.10	2.1.1	2.1.2	2.1.3	2.1.4	2.2.1
Geology							
Soils							
Seismic			*	*	*		
Air Quality							
Water Resources			*	*	*		
Biological Resources							
Vegetation							
Wildlife							
Natural Resources							
Land Use							*
Population							
Housing							
Transportation/Circulation						*	*
Public Services							
Fire Protection	*	*					
Police Protection							
Schools							
Parks and Recreation							
Libraries							
Hospital							
Public Utilities							
Water		*	*	*	*		
Sewer							
Solid Waste							
Storm Drainage							
Power							
Natural Gas						*	
Telephone							
Cable							
Risk of Upset							
Seismic Hazards			*	*			
Aircraft Crash Potential							*
Hazardous Materials							
Noise							
Light and Glare							
Aesthetics							
Cultural Resources							
Historical Resouces							
Archaeological Resources							
Paleontological Resources							

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	SAFETY ELEMENT							
	2.2.2	2.2.3	2.3.1	2.3.2	2.3.3	2.3.4	2.3.5	2.3.6
Geology								
Soils								
Seismic								
Air Quality								
Water Resources								
Biological Resources								
Vegetation								
Wildlife								
Natural Resources								
Land Use	*	*				*		
Population								
Housing								
Transportation/Circulation	*						*	
Public Services								
Fire Protection								
Police Protection								
Schools								
Parks and Recreation								
Libraries								
Hospital								
Public Utilities								
Water								
Sewer								
Solid Waste								
Storm Drainage								
Power								
Natural Gas								
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential	*	*						
Hazardous Materials			*	*	*	*	*	*
Noise								
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	SAFETY ELEMENT						
	2.3.7	2.4.1	2.4.2	2.4.3	2.5.1	2.5.2	2.5.3
Geology							
Soils							
Seismic							
Air Quality							
Water Resources							
Biological Resources							
Vegetation							
Wildlife							
Natural Resources							
Land Use	*			*			
Population							
Housing					*		
Transportation/Circulation			*				
Public Services							
Fire Protection							
Police Protection		*	*	*	*	*	*
Schools							
Parks and Recreation							
Libraries							
Hospital							
Public Utilities							
Water							
Sewer							
Solid Waste							
Storm Drainage							
Power							
Natural Gas							
Telephone							
Cable							
Risk of Upset							
Seismic Hazards							
Aircraft Crash Potential							
Hazardous Materials	*						
Noise							
Light and Glare							
Aesthetics				*			
Cultural Resources							
Historical Resouces							
Archaeological Resources							
Paleontological Resources							

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	SAFETY ELEMENT					
	2.5.4	3.1.1	3.1.2	3.1.3	3.1.6	3.1.7
Geology						
Soils						
Seismic			*	*		
Air Quality						
Water Resources			*	*		
Biological Resources						
Vegetation						
Wildlife						
Natural Resources						
Land Use						
Population					*	
Housing						*
Transportation/Circulation			*			
Public Services						
Fire Protection		*	*	*	*	*
Police Protection	*	*	*	*	*	*
Schools			*			
Parks and Recreation						
Libraries						
Hospital						
Public Utilities						
Water						
Sewer						
Solid Waste						
Storm Drainage						
Power						
Natural Gas						
Telephone						
Cable						
Risk of Upset						
Seismic Hazards			*	*		
Aircraft Crash Potential						
Hazardous Materials						
Noise						
Light and Glare						
Aesthetics						
Cultural Resources						
Historical Resouces						
Archaeological Resources						
Paleontological Resources						

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	SAFETY ELEMENT					
	3.1.9	4.1.1	4.1.2	4.2.1	4.2.2	4.2.3
Geology						
Soils						
Seismic	*	*	*	*	*	
Air Quality				*	*	
Water Resources	*			*	*	*
Biological Resources						
Vegetation				*	*	
Wildlife				*	*	
Natural Resources						
Land Use		*	*			
Population						
Housing						
Transportation/Circulation						
Public Services						
Fire Protection	*			*	*	
Police Protection	*			*	*	
Schools						
Parks and Recreation						
Libraries						
Hospital						
Public Utilities						
Water						*
Sewer						
Solid Waste						
Storm Drainage						
Power						
Natural Gas						
Telephone						
Cable						
Risk of Upset						
Seismic Hazards	*			*	*	
Aircraft Crash Potential				*		
Hazardous Materials				*		
Noise						
Light and Glare						
Aesthetics						
Cultural Resources						
Historical Resouces						
Archaeological Resources						
Paleontological Resources						

MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	PUBLIC SERVICES ELEMENT							
	1.1.1	1.1.2	1.1.3	1.1.4	1.1.5	1.1.6	1.2.1	1.2.2
Geology								
Soils								
Seismic								
Air Quality								
Water Resources								
Biological Resources								
Vegetation								
Wildlife								
Natural Resources								
Land Use	*							
Population								
Housing								
Transportation/Circulation	*	*	*	*	*	*	*	*
Public Services								
Fire Protection								
Police Protection								
Schools					*	*		
Parks and Recreation					*	*		
Libraries					*	*		
Hospital								
Public Utilities								
Water	*	*	*	*	*	*	*	*
Sewer	*	*	*	*	*	*	*	*
Solid Waste								
Storm Drainage	*	*	*	*	*	*	*	*
Power	*	*	*	*	*	*	*	*
Natural Gas	*	*	*	*	*	*	*	*
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare							*	
Aesthetics							*	
Cultural Resources								
Historical Resouces							*	
Archaeological Resources							*	
Paleontological Resources							*	
							*	

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	PUBLIC SERVICES ELEMENT							
	1.2.3	1.2.4	1.2.5	1.2.6	1.2.7	1.2.8	1.3.1	1.3.2
Geology								
Soils								
Seismic								
Air Quality								
Water Resources				*				
Biological Resources								
Vegetation								
Wildlife								
Natural Resources								
Land Use	*	*					*	*
Population								
Housing								
Transportation/Circulation	*	*	*		*	*	*	*
Public Services								
Fire Protection								
Police Protection								
Schools								
Parks and Recreation								
Libraries								
Hospital								
Public Utilities								
Water	*	*	*		*	*	*	*
Sewer	*	*	*		*	*	*	*
Solid Waste								
Storm Drainage	*	*	*	*	*	*	*	*
Power	*	*	*					
Natural Gas	*	*	*					
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	PUBLIC SAFETY ELEMENT							
	1.3.3	1.3.4	1.3.5	1.3.6	1.4.1	1.4.2	1.4.3	1.4.4
Geology								
Soils								
Seismic								
Air Quality								
Water Resources								
Biological Resources								
Vegetation								
Wildlife								
Natural Resources								
Land Use	*	*	*	*				
Population								
Housing								
Transportation/Circulation	*	*	*	*	*	*	*	*
Public Services								
Fire Protection			*				*	*
Police Protection			*				*	*
Schools			*				*	*
Parks and Recreation			*			*	*	*
Libraries			*				*	*
Hospital								
Public Utilities								
Water	*	*	*	*	*		*	*
Sewer	*	*	*	*	*		*	*
Solid Waste								
Storm Drainage	*	*	*	*	*	*	*	*
Power								
Natural Gas								
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	PUBLIC SERVICES ELEMENT							
	1.4.5	1.4.6	1.4.7	1.5.1	1.5.2	1.5.3	1.5.4	1.6.1
Geology								
Soils								
Seismic								
Air Quality								
Water Resources								
Biological Resources								
Vegetation								
Wildlife								
Natural Resources								
Land Use			*	*	*			
Population								
Housing								
Transportation/Circulation			*	*	*		*	
Public Services								
Fire Protection		*				*	*	
Police Protection		*				*	*	
Schools						*	*	
Parks and Recreation	*	*						
Libraries	*	*						
Hospital								
Public Utilities								
Water				*	*	*	*	
Sewer			*	*	*	*	*	
Solid Waste								
Storm Drainage			*	*	*			
Power								*
Natural Gas								*
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	PUBLIC SERVICES ELEMENT							
	1.6.2	1.6.3	2.1.1	2.1.2	2.1.3	2.1.4	2.2.1	2.2.2
Geology								
Soils								
Seismic								
Air Quality								
Water Resources			*	*	*	*		
Biological Resources								
Vegetation								
Wildlife								
Natural Resources								
Land Use								
Population								
Housing								
Transportation/Circulation	*							
Public Services								
Fire Protection								
Police Protection								
Schools								
Parks and Recreation								
Libraries								
Hospital								
Public Utilities								
Water			*	*	*	*		
Sewer					*		*	*
Solid Waste								
Storm Drainage								
Power	*	*						
Natural Gas	*	*						
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	PUBLIC SERVICES ELEMENT							
	2.2.3	2.2.4	2.2.5	2.2.6	3.1.1	3.1.2	3.1.3	3.1.4
Geology								
Soils								
Seismic								
Air Quality								
Water Resources				*		*	*	*
Biological Resources								
Vegetation								
Wildlife								
Natural Resources								
Land Use								
Population								
Housing		*						
Transportation/Circulation								
Public Services								
Fire Protection								
Police Protection								
Schools								
Parks and Recreation								
Libraries								
Hospital								
Public Utilities								
Water				*				
Sewer	*	*	*	*				
Solid Waste								
Storm Drainage					*	*	*	*
Power								
Natural Gas								
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	PUBLIC SERVICES ELEMENT							
	3.1.5	3.2.1	3.2.2	3.2.3	4.1.1	4.1.2	4.1.3	4.1.4
Geology								
Soils								
Seismic								
Air Quality								
Water Resources	*	*	*	*				
Biological Resources								
Vegetation			*					
Wildlife			*					
Natural Resources								
Land Use					*			*
Population								
Housing								
Transportation/Circulation								
Public Services								
Fire Protection								
Police Protection								
Schools					*	*	*	*
Parks and Recreation				*				
Libraries								
Hospital								
Public Utilities								
Water								
Sewer								
Solid Waste								
Storm Drainage	*	*	*	*				
Power								
Natural Gas								
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	PUBLIC SERVICES ELEMENT							
	4.1.5	4.1.6	4.2.1	4.2.2	4.2.3	5.1.1	5.1.2	5.1.3
Geology								
Soils								
Seismic								
Air Quality								
Water Resources								
Biological Resources								
Vegetation								
Wildlife								
Natural Resources								
Land Use	*							
Population								
Housing								
Transportation/Circulation								
Public Services								
Fire Protection						*	*	*
Police Protection								
Schools	*	*	*	*	*			
Parks and Recreation	*				*			
Libraries					*			
Hospital								
Public Utilities								
Water								
Sewer								
Solid Waste								
Storm Drainage								
Power								
Natural Gas								
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	PUBLIC SERVICES ELEMENT							
	5.1.4	5.2.1	5.2.2	5.2.3	5.3.1	5.3.2	5.3.3	5.3.4
Geology								
Soils								
Seismic								
Air Quality								
Water Resources								
Biological Resources								
Vegetation								
Wildlife								
Natural Resources								
Land Use	*							
Population								
Housing								
Transportation/Circulation								
Public Services								
Fire Protection	*							
Police Protection		*	*	*				
Schools								
Parks and Recreation								
Libraries					*	*	*	*
Hospital								
Public Utilities								
Water								
Sewer								
Solid Waste								
Storm Drainage								
Power								
Natural Gas								
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	PUBLIC SERVICES ELEMENT							
	5.3.5	5.4.1	5.4.2	5.4.3	5.4.4	5.4.5	5.4.6	5.4.7
Geology								
Soils								
Seismic								
Air Quality								
Water Resources								*
Biological Resources								
Vegetation								
Wildlife								
Natural Resources								
Land Use								
Population								
Housing								
Transportation/Circulation								
Public Services								
Fire Protection								
Police Protection								
Schools								
Parks and Recreation		*	*	*	*	*	*	*
Libraries	*							
Hospital								
Public Utilities								
Water								
Sewer								
Solid Waste								
Storm Drainage								
Power								
Natural Gas								
Telephone								
Cable								
Risk of Upset								
Seismic Hazards								
Aircraft Crash Potential								
Hazardous Materials								
Noise								
Light and Glare								
Aesthetics								
Cultural Resources								
Historical Resouces								
Archaeological Resources								
Paleontological Resources								

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	PUBLIC SERVICES ELEMENT						
	5.5.1	5.5.2	5.6.1	5.6.2	5.6.3	5.7.1	6.1.1
Geology							
Soils							
Seismic							
Air Quality							
Water Resources							
Biological Resources							
Vegetation							
Wildlife							
Natural Resources							
Land Use			*	*	*		
Population							
Housing							
Transportation/Circulation							
Public Services							
Fire Protection							
Police Protection							
Schools							
Parks and Recreation					*	*	
Libraries					*		
Hospital	*	*					
Public Utilities							
Water							
Sewer							
Solid Waste							*
Storm Drainage							
Power							
Natural Gas							
Telephone							
Cable							
Risk of Upset							
Seismic Hazards							
Aircraft Crash Potential							
Hazardous Materials							
Noise							
Light and Glare							
Aesthetics							
Cultural Resources							
Historical Resouces							
Archaeological Resources							
Paleontological Resources							

TABLE 1-2
MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	PUBLIC SERVICES ELEMENT						
	6.1.2	6.1.3	6.1.4	6.2.1	6.2.2	6.2.3	6.2.4
Geology							
Soils							
Seismic							
Air Quality							
Water Resources							
Biological Resources							
Vegetation							
Wildlife							
Natural Resources							
Land Use					*		
Population							
Housing							
Transportation/Circulation					*		
Public Services							
Fire Protection							
Police Protection							
Schools							
Parks and Recreation							
Libraries							
Hospital							
Public Utilities							
Water							
Sewer							
Solid Waste	*	*	*				
Storm Drainage							
Power							
Natural Gas							
Telephone							
Cable							
Risk of Upset							
Seismic Hazards							
Aircraft Crash Potential							
Hazardous Materials				*	*	*	*
Noise							
Light and Glare							
Aesthetics							
Cultural Resources							
Historical Resouces							
Archaeological Resources							
Paleontological Resources							

TABLE 1-2

MATRIX OF ENVIRONMENTAL ISSUES AND GENERAL PLAN POLICIES, continued

ISSUE	PUBLIC SERVICES ELEMENT		
	6.2.5	6.2.6	6.2.7
Geology			
Soils			
Seismic			
Air Quality			
Water Resources			
Biological Resources			
Vegetation			
Wildlife			
Natural Resources			
Land Use			
Population			
Housing			
Transportation/Circulation		*	
Public Services			
Fire Protection			
Police Protection			
Schools			
Parks and Recreation			
Libraries			
Hospital			
Public Utilities			
Water			
Sewer			
Solid Waste			
Storm Drainage			
Power			
Natural Gas			
Telephone			
Cable			
Risk of Upset			
Seismic Hazards			
Aircraft Crash Potential			
Hazardous Materials	*	*	*
Noise			
Light and Glare			
Aesthetics			
Cultural Resources			
Historical Resouces			
Archaeological Resources			
Paleontological Resources			

Appendix E

Calculated Emissions Levels

Utility Emissions for Existing Land Uses
(lbs/day)

LAND USE	CO	NOx	SOx	ROC	Part
Residential					
Single-family	166	788	43	29	15
Multi-family	37	1,182	12	5	4
Mobile Home	12	60	4	1	1
Subtotal	215	2,030	59	35	20
Retail	52	302	24	5	8
Office	2	13	1	-	-
Business Park					
Industrial	260	1,513	116	28	40
Airfield & Related					
Public Facilities	30	176	15	2	5
TOTAL	559	4,034	215	70	73

Utility Emissions at Buildout
(lbs/day)

LAND USE	CO	NOx	SOx	ROC	Part
Residential					
Single-family	771	3,663	198	134	69
Multi-family	242	1,183	74	37	26
Mobile Home	18	86	6	2	2
Subtotal	1,031	4,932	278	173	97
Retail	342	1,981	158	34	54
Office	69	401	32	4	11
Business Park	767	4,452	370	71	124
Industrial	2,336	13,579	1,041	246	351
Airfield & Related	1,063	6,153	530	91	178
Public Facilities	54	315	27	4	9
TOTAL	5,662	31,813	2,436	623	824

Project Name : Palmdale Date : 07-10-1992

Analysis Year = 2020 Temperature = 75
EMFAC7 VERSION : EMFAC7D ...11/88

Unit Type	Trip Rate	Size	Tot Trips	Days Op.
Single Family Residential	10.1/Unit	99193	997882	
Multi-family Residential	6.0/Unit	37158	222205	
Mobile Home	4.8/Unit	2854	13728	
Retail	275.2/Acre	2629	723396	1
Office	196.0/Acre	486	95256	1
Public Facilities	558.0/Acre	94	52452	1
Recreational	3.7/Acre	626	2291	1
Industrial	51.8/Acre	10814	560165	1
Schools	1.3/student	28200	36660	1
Special Generators	1.0/NA	66500	66500	1
Business Park	140.0/Acre	5174	724360	1
Medical Office Building	446.9/Acre	20	8938	1
Manufacturing	86.0/Acre	282	24252	1

	Residential			Commercial	
	Home-Work	Home-Shop	Home-Other	Work	Non-Work
Trip Length	8.8	3.2	5.2	8.1	5.5
% Started Cold	88.7	40.5	59.0	78.0	27.8
Trip Speed	35	35	35	35	35
Percent Trip	27.3	21.2	51.5		

Vehicle Fleetmix

Vehicle Type	Percent Type	Leaded	Unleaded	Diesel
Light Duty Autos	72.8	0.0	97.5	2.5
Light Duty Trucks	14.3	0.0	97.4	2.6
Medium Duty Trucks	4.3	0.0	100.0	0.0
Heavy Duty Trucks	3.9	11.0	89.0	N/A
Heavy Duty Trucks	3.9	N/A	N/A	100.0
Motorcycles	0.9	100.0	N/A	N/A

Project Emissions Report in Lb/Day

Unit Type	TOG	CO	NOx
Single Family Residential	10146.7	105311.2	18367.0
Multi-family Residential	2260.6	23450.3	4089.9
Mobile Home	139.7	1448.8	252.7
Retail	6443.2	61059.8	12920.2
Office	958.5	9346.7	1894.2
Public Facilities	492.8	4731.7	981.7
Recreational	20.0	188.6	40.2
Industrial	6010.1	59396.6	11793.1
Schools	352.6	3403.8	700.4
Special Generators	639.6	6174.3	1270.6

Business Park	7707.4	76042.6	15137.1
Medical Office Building	78.8	745.0	158.2
Manufacturing	292.5	2955.3	567.2

Project Emissions Report in Lb/Day

Unit Type	FUEL USE	PM10	SOx
Single Family Residential	217093.1	6257.0	2046.2
Multi-family Residential	48341.5	1393.3	455.7
Mobile Home	2986.5	86.1	28.2
Retail	155661.3	56287.3	1467.2
Office	22989.0	19525.8	216.7
Public Facilities	11867.2	7668.5	111.9
Recreational	483.8	109.1	4.6
Industrial	143642.9	125467.3	1353.9
Schools	8478.7	6240.1	79.9
Special Generators	15380.0	11319.3	145.0
Business Park	184289.8	162074.0	1737.1
Medical Office Building	1905.3	563.8	18.0
Manufacturing	6950.9	3459.2	65.5

Appendix F

Floral and Faunal Compendia

INTRODUCTION TO FLORAL AND FAUNAL SURVEY

Floral components encountered during the survey were recorded in terms of relative abundance and host habitat type. Additional plant species are derived from ERS (1989). Expected site use by wildlife is derived from survey information combined with documented habitat preferences of regional wildlife species which, whether or not recorded during the survey, are considered likely to include the project area within their range.

Habitat designations used in this report are according to the classification system of Munz and Keck (1959) as amplified by Thorne (1976) and Axelrod (1978). Floral taxonomy used in this report follows the current checklist of Kartesz and Kartesz (1980). Common plant names, where not available from Munz (1974), are taken from Abrams (1923), Robbins, et al. (1951), Collins (1972), Niehaus and Ripper (1976) and Muns (1983). Vertebrates identified in the field by sight, calls, tracks, scat or other signs are cited according to the nomenclature of Jennings (1983) for amphibians and reptiles; AOU (1983) for birds; and Jones, et al. (1982) for mammals.

TABLE ~~X~~ 1

FLORAL COMPENDIUM[1]

LEGEND

HABITAT[2]

DS - Desert Scrub
JJW - Juniper/Joshua Tree Woodland
CH - Chaparral
RU - Ruderal
R - Riparian

ABUNDANCE[3]

a - abundant
c - common
f - frequent
o - occasional
i - infrequent

STATUS

* Nonnative

Note: Plant species lacking habitat and abundance data were compiled from ERS (1989).

---

1 This is not intended as an exhaustive listing of the vegetation occurring on the site; some annual herbs or very uncommon species may not have been detected by the field survey.

2 Indicates habitat type (plant community) in which species most commonly occurs; species may occur in limited numbers or restricted localities in other communities.

3 This is simply a gross indication of relative frequency of occurrence on the site. Quantitative sampling methods were not employed to arrive at these determinations.

VASCULAR PLANTS

CONIFERAE

CUPRESSACEAE - CYPRESS FAMILY	DS	JJW	CH	RU	R
Juniperus californica California juniper	f	c	o	-	-

PINACEAE - PINE FAMILY

Pinus jeffreyi
Jeffrey pine

GNETAE

EPHEDRACEAE - EPHEDRA FAMILY					
Ephedra californica California ephedra	f	f	i	-	-
Ephedra viridis Mormon tea					

ACERACEAE - MAPLE FAMILY

Acer macrophyllum
big-leaf maple

ANACARDIACEAE - SUMAC FAMILY

Rhus trilobata
squaw bush

APIACEAE - CARROT FAMILY

Sanicula arguta
sharp-toothed sanide

ANGIOSPERMAE (DICOTYLEDONES)

ASTERACEAE - SUNFLOWER FAMILY	DS	JJW	CH	RU	R
Acamptopappus sphaerocephalus goldenhead	o	i	i	-	-
Ambrosia acanthicarpa annual bur-ragweed	f	f	i	f	-
Ambrosia dumosa burro-bush	f	f	i	i	-
Ambrosia psilostachya western ragweed	o	i	i	o	i
Artemisia dracunculus tarragon	-	-	-	-	o
Artemisia tridentata Great Basin sagebrush	c	c	f	i	i
Baccharis glutinosa mulefat	-	-	-	-	c
Centaurea sp. centaurea	i	i	i	i	-
Chrysothamnus nauseosus rabbit brush	a	c	o	f	i
* Conyza canadensis horseweed	i	i	i	f	f
Corethrogyne filaginifolia cudweed aster					
Encelia farinosa brittle bush	f	f	i	-	f
Ericameria linearifolia narrow-leaved goldenbush	f	f	o	i	i
Ericameria pinifolia pine goldenbush	o	o	o	-	-
Eriophyllum spp. eriophyllum	o	o	o	-	-
Gutierrezia sarothrae snakeweed	o	o	i	-	k
Haplopappus cooperi Cooper's goldenbush	o	o	i	-	-
Haplopappus longifolius long-leaved goldenbush	f	f	i	-	-
Heterotheca grandiflora telegraph weed	i	i	i	o	i
Hymenoclea salsola cheesebush	o	o	-	-	-
Lepidospartum squamatum scale-broom	i	-	-	-	o
Senecio douglasii butterweed	o	i	o	i	f
Tetradymia spinosa cotton-thorn	o	o	-	-	-

	BORAGINACEAE - BORAGE FAMILY	DS	JJW	CH	RU	R
	Amsinckia tessellata checker fiddleneck	c	c	i	f	i
	BRASSICACEAE - MUSTARD FAMILY					
	Arabis sp. rockcress	i	o	i	-	-
*	Brassica sp. mustard	o	o	o	c	i
*	Brassica nigra black mustard	o	o	o	c	i
*	Raphanus sativus wild radish	i	i	i	o	i
*	Sisymbrium altissimum tumbling-mustard	o	o	i	-	-
	CACTACEAE - CACTUS FAMILY					
	Opuntia basilaris beavertail cactus	i	o	i	-	-
*	Opuntia echinocarpa silver cholla	i	i	-	-	-
	CAPRIFOLIACEAE - HONEYSUCKLE FAMILY					
	Sambucus mexicana Mexican elderberry	-	-	o	-	-
	Lonicera subspicata southern honeysuckle					
	CHENOPODIACEAE - GOOSEFOOT FAMILY					
	Atriplex sp. saltbush	c	o	-	o	i
	Atriplex polycarpa allscale	o	o	-	i	-
*	Chenopodium album lamb's-quarters	i	i	i	o	i
	Eurotia lanata winterfat	f	f	i	-	-
*	Salsola iberica Russian-thistle	f	f	o	c	i

	DS	JJW	CH	RU	R
CRASSULACEAE - STONECROP FAMILY					
Dudleya saxosa liveforever					
CUCURBITACEAE - GOURD FAMILY					
Marah macrocarpus wild cucumber					
ERICACEAE - HEATH FAMILY					
Arctostaphylos sp. manzanita	-	-	f	-	-
EUPHORBIACEAE - SPURGE FAMILY					
Eremocarpus setigerus dove weed	f	o	i	c	-
Euphorbia albomarginata rattlesnake weed	o	o	i	o	-
Stillingia paucidentata tooth-leaf	i	i	-	-	-
FABACEAE - PEA FAMILY					
Lotus scoparius deerweed	o	o	o	i	i
Lupinus sp. lupine	o	o	o	i	i
* Medicago polymorpha bur-clover	i	i	i	o	i
* Melilotus indica yellow sweet-clover	i	o	i	o	o
FAGACEAE - BEECH FAMILY					
Quercus agrifiolia Coast live oak					
Quercus chrysolepis Canyon live oak					
Quercus douglassii Blue oak					
Quercus dumosa scrub oak	-	-	f	-	-

GERANIACEAE - GERANIUM FAMILY	DS	JJW	CH	RU	R
* *Erodium botrys* broad-lobed filaree	c	f	o	a	i
* *Erodium cicutarium* red-stemmed filaree	c	f	o	a	i
HYDROPHYLLACEAE - WATERLEAF FAMILY					
Eriodictyon crassifolium thick-leaved yerba santa					
Eriodictyon trichocalyx hairy yerba santa	-	i	o	-	-
Phacelia sp. phacelia	i	o	o	-	-
LAMIACEAE - MINT FAMILY					
Salvia apiaha white sage					
Salvia columbariae chia	i	o	f	-	-
Salvia dorrii Great Basin blue sage	f	f	i	-	-
Trichostema lanceolatum vinegar weed	i	i	i	o	-
MALVACEAE - MALLOW FAMILY					
Malacothamnus fasciculatus bushmallow					
* *Malva parviflora* cheeseweed	-	-	-	o	-
OLEACEAE - OLIVE FAMILY					
Foristiera neomexicana desert olive					
ONAGRACEAE - EVENING-PRIMROSE FAMILY					
Oenothera sp. evening-primrose	o	o	i	i	i

PAPAVERACEAE - POPPY FAMILY	DS	JJW	CH	RU	R
Argemone minuta prickly poppy					
Eschscholzia californica California poppy	o	o	o	o	i
PLATANACEAE - SYCAMORE FAMILY					
Platanus racemosa California sycamore	-	-	-	-	o
POLEMONIACEAE - PHLOX FAMILY					
Eriastrum densifolium woolly gilia	o	o	o	-	-
POLYGONACEAE - BUCKWHEAT FAMILY					
Eriogonum inflatum desert trumpet					
Eriogonum maculatum spotted buckwheat	i	i	-	-	-
Eriogonum fasciculatum California buckwheat	o	f	c	i	o
Eriogonum sp. buckwheat	o	o	o	-	-
Rumex sp. dock	-	-	-	i	o
RANUNCULACEAE - CROWFOOT FAMILY					
Delphinium parishii Parish's desert delphinium	i	i	-	-	-
RHAMNACEAE - BUCKTHORN FAMILY					
Ceanothus greggii desert ceanothus					
Rhamnus crocea redberry	-	-	f	-	-
Rhamnus ilicifolius holly-leaved redberry					

ROSACEAE - ROSE FAMILY	DS	JJW	CH	RU	R
Adenostoma fasciculatum chamise					
Cercocarpus betuloides mountain mahogany					
Prunus ilicifolius holly-leaved cherry					
Purshia glandulosa antelope bush	o	o	i	-	o
RUBIACEAE - MADDER FAMILY					
Galium sp. bedstraw	i	i	i	-	-
SALICACEAE - WILLOW FAMILY					
Populus fremontii Fremont's cottonwood	-	-	-	-	f
Salix spp. willow	-	-	-	-	f
SCROPHULARIACEAE - FIGWORT FAMILY					
Penstemon spp. penstemon	-	-	o	-	-
SOLANACEAE - NIGHTSHADE FAMILY					
Datura sp. jimsonweed	i	i	i	i	i
Lycium spp. boxthorn	f	o	i	-	-
Nicotiana attenuate coyote tobacco					
STERCULIACEAE - CACAO FAMILY					
Fremontodendron californicum flannel bush					

TAMARICACEAE - TAMARISK FAMILY	DS	JJW	CH	RU	R
* Tamarix sp. tamarisk	-	-	-	-	i
VERBENACEAE - VERVAIN FAMILY					
Verbena lasiostachys western verbena					
VISCACEAE - MISTLETOE FAMILY					
Phoradendnron juniperium juniper mistletoe					
Phoradendron villosum oak mistletoe					
ZYGOPHYLLACEAE - CALTROP FAMILY					
Larrea tridentata creosote bush	f	o	-	-	-
ANGIOSPERMAE (MONOCOTYLEDONES)					
AGAVACEAE - AGAVE FAMILY					
Yucca brevifolia Joshua tree	f	c	-	i	-
Yucca whipplei Spanish bayonet	i	o	f	-	-
CYPERACEAE - SEDGE FAMILY					
Carex spp. sedge	-	-	-	-	o
JUNCACEAE - RUSH FAMILY					
Juncus spp. rush	-	-	-	-	o

LILIACEAE - LILY FAMILY	DS	JJW	CH	RU	R
Calochortus sp. mariposa	i	i	i	-	-
Dichelostemma pulchellum blue dicks	i	i	i	-	-
POACEAE - GRASS FAMILY					
* Arundo donax giant reed	-	-	-	-	i
* Avena sp. wild oat	i	i	i	o	i
* Bromus diandrus ripgut grass	i	i	i	o	i
* Bromus rubens red brome	c	c	f	c	i
* Bromus tectorum downy chess	c	c	o	c	i
* Cynodon dactylon Bermuda grass	-	-	-	o	i
Distichlis spicata salt grass	i	-	-	i	i
Hordeum sp. foxtail barley	-	-	i	o	-
Melica imperfecta coast range melic					
Oryzopsis hymenoides ricegrass	f	o	-	i	-
* Polypogon monspeliensis rabbit's-foot grass	-	-	-	-	i
* Schismus barbatus Mediterranean schismus	f	f	o	c	-
Sitanion histrix squirrel tail	o	o	o	-	-
Sitanion jubatum big squirrel tail	o	o	o	-	-
Sporobolus airoides alkali saccaton	i	-	-	-	-
Stipa speciosa desert needle grass	f	f	o	-	-
Vulpia sp. fescue	i	i	i	-	o
TYPHACEAE - CATTAIL FAMILY					
Typha sp. cattail	-	-	-	-	f

TABLE 2

FAUNAL COMPENDIUM[1]

LEGEND

STATUS

* Nonnative

SEASONALITY (Birds Only)[2]

---

1 List includes species observed or expected to occur on or in the immediate vicinity of the site.

2 Only locally breeding and over-wintering birds are listed. Transients (migrants) and vagrants other than those seen during the survey are not included.

TERRESTRIAL VERTEBRATES

AMPHIBIANS

PELOBATIDAE - SPADEFOOT TOADS

Scaphiopus hammondi
western spadefoot

BUFONIDAE - TRUE TOADS

Bufo boreas
western toad
Bufo punctatus
red-spotted toad

HYLIDAE - TREEFROGS

Hyla regilla
Pacific treefrog

REPTILES

TESTUDINIDAE - TRUE LAND TORTOISES

Gopherus agassizi
desert tortoise

GEKKONIDAE - GECKOS

Coleonyx variegatus
banded gecko

IGUANIDAE - IGUANID LIZARDS

Crotaphytus wislizenii
leopard lizard
Phrynosoma platyrhinos
desert horned lizard
Sceloporus magister
desert spiny lizard
Uta stansburiana
side-blotched lizard

TEIIDAE - WHIPTAIL LIZARDS

Cnemidophorus tigris
western whiptail

COLUBRIDAE - COLUBRID SNAKES

Arizona elegans
glossy snake
Chionactis occipitalis
western shovel-nosed snake
Coluber constrictor
racer
Hypsiglena torquata
night snake
Lampropeltis getulus
common kingsnake
Masticophis flagellum
coachwhip
Phyllorhynchus decurtatus
spotted leaf-nosed snake
Pituophis melanoleucus
gopher snake
Rhinocheilus lecontei
long-nosed snake
Salvadora hexalepis
western patch-nosed snake

VIPERIDAE - VIPERS

Crotalus cerastes
sidewinder
Crotalus mitchelli
speckled rattlesnake
Crotalus scutulatus
Mojave rattlesnake

BIRDS

ARDEIDAE - HERONS

Ardea herodias
great blue heron

ANATIDAE - WATERFOWL

Anas platyrhynchos
mallard

CATHARTIDAE - NEW WORLD VULTURES

Cathartes aura
turkey vulture

ACCIPITRIDAE - HAWKS

Accipiter striatus
sharp-shinned hawk
Accipiter cooperii
Cooper's hawk
Buteo jamaicensis
red-tailed hawk
Aquila chrysaetos
golden eagle

FALCONIDAE - FALCONS

Falco sparverius
American kestrel
Falco mexicanus
prairie falcon

PHASIANIDAE - PHEASANTS & QUAILS

Callipepla californica
California quail

RALLIDAE - RAILS & GALLINULES

Fulica americana
American coot

LARIDAE - JAEGERS, GULLS & TERNS

Larus californicus
California gull

COLUMBIDAE - PIGEONS & DOVES

* Columba livia
rock dove
Zenaida macroura
mourning dove

CUCULIDAE - CUCKOOS & ROADRUNNERS

Geococcyx californianus
greater roadrunner

TYTONIDAE - BARN-OWLS

Tyto alba
common barn-owl

STRIGIDAE - TRUE OWLS

Bubo virginianus
great horned owl
Athene cunicularia
burrowing owl

CAPRIMULGIDAE - GOATSUCKERS

Chordeiles acutipennis
lesser nighthawk
Phalaenoptilus nuttallii
common poorwill

APODIDAE - SWIFTS

Aeronautes saxatalis
white-throated swift

TROCHILIDAE - HUMMINGBIRDS

Calypte costae
Costa's hummingbird

PICIDAE - WOODPECKERS

Picoides scalaris
ladder-backed woodpecker
Colaptes auratus
common northern flicker

TYRANNIDAE - TYRANT FLYCATCHERS

Sayornis nigricans
black phoebe
Sayornis saya
Say's phoebe
Myiarchus cinerascens
ash-throated flycatcher

ALAUDIDAE - LARKS

Eremophila alpestris
horned lark

HIRUNDINIDAE - SWALLOWS

Stelgidopteryx serripennis
northern rough-winged swallow
Hirundo pyrrhonota
cliff swallow
Hirundo rustica
barn swallow

CORVIDAE - JAYS & CROWS

Gymnorhinus cyanocephalus
pinyon jay
Aphelocoma coerulescens
scrub jay
Corvus corax
common raven

PARIDAE - TITMICE

Parus inornatus
plain titmouse

REMIZIDAE - VERDINS

Auriparus flaviceps
verdin

AEGITHALIDAE - BUSHTITS

Psaltriparus minimus
bushtit

TROGLODYTIDAE - WRENS

Campylorhynchus brunneicapillus
cactus wren
Salpinctes obsoletus
rock wren
Thryomanes bewickii
Bewick's wren

MUSCICAPIDAE - KINGLETS, GNATCATCHERS, THRUSHES & BABBLERS

Regulus calendula
ruby-crowned kinglet
Sialia mexicana
western bluebird
Chamaea fasciata
wrentit

MIMIDAE - THRASHERS

Mimus polyglottos
northern mockingbird
Oreoscoptes montanus
sage thrasher
Toxostoma lecontei
Le Conte's thrasher

BOMBYCILLIDAE - WAXWINGS

Bombycilla cedrorum
cedar waxwing

PTILOGONATIDAE - SILKY-FLYCATCHERS

Phainopepla nitens
phainopepla

LANIIDAE - SHRIKES

Lanius ludovicianus
loggerhead shrike

STURNIDAE - STARLINGS

* Sturnus vulgaris
European starling

VIREONIDAE - VIREOS

Vireo gilvus
warbling vireo

EMBERIZIDAE - WOOD WARBLERS, TANAGERS, BUNTINGS & BLACKBIRDS

Vermivora celata
orange-crowned warbler
Dendroica petechia
yellow warbler
Dendroica coronata
yellow-rumped warbler
Dendroica townsendi
Townsend's warbler
Geothypis trichas
common yellowthroat
Wilsonia pusilla
Wilson's warbler
Pheucticus melanocephalus
black-headed grosbeak
Amphispiza belli
sage sparrow
Pipilo crissalis
California towhee
Pipilo erythrophthalamus
rufous-sided towhee
Aimophila ruficeps
rufous-crowned sparrow
Poocetes gramineus
vesper sparrow

EMBERIZIDAE - WOOD WARBERS, TANAGERS, BUNTINGS & BLACKBIRDS (continued)

Chondestes grammacus
lark sparrow
Melospiza melodia
song sparrow
Zonotrichia leucophrys
white-crowned sparrow
Amphispiza bilineata
black-throated sparrow
Junco hyemalis
dark-eyed junco
Sturnella neglecta
western meadowlark
Euphagus cyanocephalus
Brewer's blackbird
Icterus galbula
northerm oriole
Icterus parisorum
Scott's oriole

FRINGILLIDAE - FINCHES

Carpodacus mexicanus
house finch
Carduelis psaltria
lesser goldfinch
Carduelis lawrencei
Lawrence's goldfinch

PASSERIDAE - OLD WORLD SPARROWS

* Passer domesticus
house sparrow

MAMMALS

DIDELPHIDAE - NEW WORLD OPOSSUMS

* Didelphis virginiana
Virginia opossum

VESPERTILIONIDAE - EVENING BATS

Myotis yumanensis
Yuma myotis
Myotis californicus
California myotis
Pipistrellus hesperus
western pipistrelle
Lasiurus cinereus
hoary bat
Plecotus townsendii
Townsend's big-eared bat
Antrozous pallidus
pallid bat

MOLOSSIDAE - FREE-TAILED BATS

Tadarida brasiliensis
Brazilian free-tailed bat

LEPORIDAE - HARES & RABBITS

Sylvilagus bachmani
brush rabbit
Sylvilagus audubonii
desert cottontail
Lepus californicus
black-tailed jack rabbit

SCIURIDAE - SQUIRRELS

Eutamias merriami
Merriam's chipmunk
Ammospermophilus leucurus
white-tailed antelope ground squirrel
Spermophilus mohavensis
Mohave ground squirrel
Spermophilus beecheyi
California ground squirrel
Sciurus griseus
western gray squirrel

GEOMYIDAE - POCKET GOPHERS

Thomomys bottae
Botta's pocket gopher

HETEROMYIDAE - POCKET MICE & KANGAROO RATS

Perognathus parvus
great basin pocket mouse
Perognathus alticola
white-eared pocket mouse
Perognathus longimembris
little pocket mouse
Perognathus penicillatus
desert pocket mouse
Perognathus fallax
San Diego pocket mouse
Dipodomys agilis
agile kangaroo rat

CRICETIDAE - NEW WORLD RATS & MICE

Reithrodontomys megalotis
western harvest mouse
Peromyscus eremicus
cactus mouse
Peromyscus californicus
California mouse
Peromyscus maniculatus
deer mouse
Peromyscus crinitus
canyon mouse
Peromyscus boylii
brush mouse
Peromyscus truei
pinon mouse
Onychomys torridus
southern grasshopper mouse
Neotoma lepida
desert woodrat
Neotoma fuscipes
dusky-footed woodrat

MURIDAE - OLD WORLD RATS & MICE

* Rattus rattus
black rat
* Rattus norvegicus
Norway rat
* Mus musculus
house mouse

CANIDAE - WOLVES & FOXES

Canis latrans
coyote
* Canis familiaris
domestic dog
Vulpes macrotis
kit fox

CANIDAE - WOLVES & FOXES (continued)

Urocyon cinereoargenteus
gray fox

URSIDAE - BEARS

Ursus americanus
black bear

PROCYONIDAE - RACCOONS

Procyon lotor
raccoon

MUSTELIDAE - WEASELS, SKUNKS & OTTERS

Mustela frenata
long-tailed weasel
Taxidea taxus
badger
Spilogale gracilis
western spotted skunk
Mephitis mephitis
striped skunk

FELIDAE - CATS

* Felis catus
domestic cat
Felis rufus
bobcat

CERVIDAE - DEERS

Odocoileus hemionus
mule deer

BOVIDAE - BISON, GOATS & SHEEP

* *Bos bovis*
  domestic cattle

Appendix G

Cultural Resources Information

TABLE H-1

POTENTIAL HISTORIC STRUCTURES

Structure	Year Built	Other
Single-family house (Wolf House) 536 E. Palmdale Blvd.	early 1930s	
Single-family house Avenue Q between 5th Place and 6th Street East (Address would place it near the Valley Press)	1920s-1930s	
Ice storage South of Avenue R between 6th Street East and railroad	1918	Ice storage for fruit and ice now: Bekins Storage
Two-story barn-like structure 37352 N. Sierra Highway	1920s	
Single-family house 37516 9th Street East	1930s	Last of homes in formerly known section of city, "Mexican Town"
Metal building 38126 N. Sierra Highway	1920s	Part of L.A. County Maintenance Yard
Concrete block house 932 East Avenue R	1918	Imitation rock face probably made by Sadler Block Co.(1915)
Six woodframe houses on the southwest corner of 9th Street East and Avenue Q-10	1920s	"Edison Co. Houses" for company employees
Single-family house 911 Avenue Q-9	1935	
Concrete block house 927 Avenue Q-9	1920s	Imitation rock face probably made by Sadler Block
Co.(1915) Single-family house 942 Avenue Q-9	1920s	
Single-family houses South side of Avenue Q-10 between 10th Street East and 9th Street East	1930s	

TABLE H-1 (continued)

Structure	Year Built	Other
Single-family house Southwest corner of Avenue Q-11 and 10th Street East	1920s	
Single-family houses 38211, 38147 and 38107 10th Street East	1930s	
Single-family house 38713 9th Street East	1920s	
Single-Family house 38714 9th Street East	1930s	
Single-Family house 38707 9th Street East	1914	
Old Palmdale Cemetery Southeast corner of 20th Street East and Avenue R-12	1880s	
Ranch house 1818 E. Palmdale Blvd.	1920s	
Old Schoolhouse on McAdam Park 30th Street East and Avenue R	1900	
Single-family house 38457 9th Street East	1920s	
Moore's Hall 38414 8th Street East	1918	
Bank of Italy Corner of 8th Street East and E. Palmdale Blvd.	before 1918	First bank in NE Palmdale
Safeway Store Sierra Highway	1930s	now: Apollo Tire
Old Leona Schoolhouse 8367 Elizabeth Lake Road	1914	

TABLE H-1 (continued)

Structure	Year Built	Other
Store building Southwest corner of Elizabeth Lake Road and 90th Street West	1920s	
Barrel Springs SE 1/4 Sec 7 R11W T5N		Prehistoric and historic watering and camping spot used by Indians in 3000 B.C., by emigrants in 1850, and R. Nadeau wagons in 1868-75.
Charles Ritter Ranch SE 1/4 Sec 24 R13W T5N	1900s	now: Lazy T
John Ritter Ranch and Winery SE 1/4 Sec 22 R13W T6N	1900s	
Rouff Ranch SE 1/4 Sec 17 R13W T6N Bouquet Canyon Road	1902	
Palmdale Reservoir N 1/2 Sec 3 R12W T5N	1900	Used since 1900
St Anthony's Ranch W 1/4 Sec 17 R13W T6N end of 90th Street West	1901	Contains remains of Leonis Homestead
Rivera Family Cemetery SW 1/4 Sec 3 R14W T6N	1902	

Source: West Antelope Valley Historical Society, 1989.

TABLE H-2

RECORDED PREHISTORIC ARCHAEOLOGICAL SITES

Site	Site Type	Topography
LAn-82	(a)	Rift zone
LAn-239	Lithic scatter	Rift zone
LAn-305	Habitation	Foothill
LAn-405	Pit	Foothill
LAn-767	Cemetery	Rift zone
LAn-805	Lithic scatter	Foothill
LAn-806	Quarry	Foothill
LAn-827	Lithic/bone	Rift zone
LAn-872	Habitation	Floor
LAn-875	(a)	Rift zone
LAn-876	Habitation	Rift zone
LAn-878	Lithic	Rift zone
LAn-896	(a)	Floor
LAn-917	Roasting Area	Foothill
LAn-947	Bedrock mortars/pictograph	Foothill
LAn-948	Lithic scatter	Rift zone
LAn-949	Lithic scatter	Rift zone
LAn-950	Lithic scatter	Rift zone
LAn-951	Lithic scatter	Rift zone
LAn-952	(b)	
LAn-953	Lithic scatter	Rift zone
LAn-954	Habitation Rift zone	
LAn-955	Bedrock mortar	Rift zone
LAn-959	Lithic scatter/bedrock mortar	Rift zoneE-7
LAn-1035	Petroglyph/milling	Foothill
LAn-1022	Lithic scatter	Foothill
LAn-1023	Lithic workshop	Foothill

TABLE H-2 (continued)

Site	Site Type	Topography
LAn-1062	Lithic/ground stone scatter	Floor
LAn-1219	Hunting Blind	Foothill
LAn-1220	Hunting Blind	Foothill
LAn-1247	(No information available)	
LAn-1251	Lithic scatter	Rift zone
LAn-1252	Lithic scatter	Rift zone
LAn-1253	Lithic scatter	Rift zone
LAn-1263	Lithic scatter/deposit	Foothill
LAn-1264	Lithic/bone scatter	Foothill
LAn-1279	(No information available)	
LAn-1280	(No information available)	
LAn-1281	(No information available)	
LAn-1335	Bedrock mortars	Rift zone
LAn-1419	Lithic scatter	Foothill
LAn-1420	Bedrock mortar	Foothill
LAn-1427	Lithic scatter/milling stones	Floor
LAn-1518	Lithic scatter	Foothill
LAn-1575	Habitation Foothill	
LAn-1576	Cupules/cairn/rock ring	Foothill
LAn-1577	Steatite outcropping	Foothill
LAn-1578	Steatite outcropping	Foothill
LAn-1627	Bedrock mortar	Rift zone
LAn-1628	Petroglyph Foothill	
LAn-1629	Hunting Blind	Foothill
LAn-1630	Petroglyph Foothill	
LAn-1631	Bedrock Mortar	Rift zone
LAn-1632	Grinding mortars/cupulae petroglyph	Rift zone
LAn-1633	Bedrock mortar	Rift zone

TABLE H-2 (continued)

Site	Site Type	Topography
LAn-1634	Milling/bedrock mortar petroglyph	Foothill
LAn-1635	Milling/bedrock mortar/petroglyph	Foothill
LAn-1636	Schist boulder/cupules	Rift zone
LAn--1637	Milling station/cupules	Rift zone
LAn-1640	Midden deposit	Foothills
LAn-1643	Pits	Rift zone
LAn-1645	Lithic scatter	Rift zone
LAn-1746	Lithic scatter	Rift Zone
LAn-1747	Lithic scatter	Rift zone/Foothill
LAn-1748	Lithic scatter	Rift zone
LAn-1749	Lithic scatter	Rift zone
LAn-1750	Lithic scatter/milling stone	Rift zone
LAn-1751	Lithic scatter	Foothill
LAn-1752	Lithic scatter/milling stone	Foothill
LAn-1753	Lithic scatter	Rift zone
LAn-1754	Lithic scatter	Rift zone
LAn-1755	Lithic scatter/milling stone	Rift zone
LAn-1756	Milling station	Rift Zone
LAn-1757	Lithic scatter	Foothill
LAn-1759	Hunting blind	Foothill
LAn-1760	Hunting blind	Foothill
LAn-1761	Hunting blind	Foothill
LAn-1762	Hunting blind	Foothill
LAn-1763	Hunting blinds	Foothill
LAn-1764	Hunting blind/flaking station	Foothill
LAn-1765	Hunting blind	Foothill
LAn-1766	Hunting blind/rock shelter	Foothill
LAn-1767	Cupulae boulders	Rift zone/foothill

TABLE H-2 (continued)

Site	Site Type	Topography
LAn-1768	Cupule	Rift zone/foothill
LAn-1769	Hunting blind	Foothill
LAn-1770	Hunting blind/lithic scatter	Foothill
LAn-1771	(No information available)	
LAn-1772	Bedrock milling feature	Foothill/rift zone
LAn-1773	(No information available)	
LAn-1774	Lithic scatter	Rift zone
Sites without trinomilals		
RR-38	Mortar	
RR-39	Bedrock mortar/stone tools (has historic component)	
RR-40	Cupule	
RR-41-45	(No information available	
VH-1	Habitation Foothill	
VH-2	Lithic scatter	Foothill
VH-3	Lithic scatter	Foothill
VH-4	Lithic scatter	Foothill
VH-5	Lithic scatter	Foothill
VH-6	Lithic scatter	Foothill
VH-7	Lithic scatter	Foothill
VH-8	Lithic scatter	Foothill
VH-9	Lithic scatter	Foothill
VH-10	Lithic scatter	Foothill
VH-11	Lithic scatter	Foothill
VH-12	Lithic scatter	Foothill
VH-13	Lithic scatter	Foothill
VH-14	Lithic scatter	Foothill
VH-15	Lithic scatter	Foothill

TABLE H-2 (continued)

Site	Site Type	Topography
VH-16	Lithic scatter	Foothill
VH-17	Lithic scatter	Foothill

[a] Not stated in site record.
[b] Site record missing from UCLA Archaeological Information Center.

Source: UCLA Archaeological Information Center, 1988; Van Horn et al 1989; Wessell et al 1989.

TABLE H-3

RECORDED HISTORIC ARCHAEOLOGICAL SITES WITHIN THE PALMDALE PLANNING AREA

Site	Site Type	Topography
LAn-1365H	Household-trash scatter	Floor
LAn-1367H	Foundation slabs	Floor
LAn-1528H	Trash Dump	Rift Zone
LAn-1534H	Palmdale Ditch	Rift zone
LAn-1553H	Trash Dump/Homestead	Floor
LAn-1554H	Work Camp	Floor
LAn-1574H	Mine Shaft	Foothill
LAn-1587H	Foundation/Well/Pump Stand	Floor
LAn-1588H	Foundations/Wall/Trash Scatter	Foothill
LAn-1600H	Trash Dump	Floor
LAn-1601H	Homesite Floor	
LAn-1609H	Irrigation Pipe/Pump Stands/Well Floor	
LAn-1610H	Adobe Ruin/Outbuildings/Trash Dump Floor	
LAn-1611H	Structural Debris	Floor
LAn-1614H	Cement BBQ	Floor
LAn-1615H	Homesite Floor	
LAn-1623H	Trash Scatter	Floor
LAn-1626H	Hunting Club	Rift Zone
LAn-1638H	Trash Scatter	Foothill
LAn-1639H	Meat Locker	Foothill
LAn-1641H	Ranch Buildings	Foothill
LAn-1642H	Ranch Complex	Foothill
LAn-1644H	Trash Dump	Rift Zone
LAn-1687H	Foundation/Cistern/Well	Floor
LAn-1692H	Foundation Foothill	
LAn-1709H	Stone Walled Structure (Pre 1920) Floor	

TABLE H-3 (continued)

Site	Site Type	Topography
LAn-1717H	Can Dump	Floor
LAn-1758H	Foundation/Pits	Rift Zone
LAn-1775H	Trash Deposit	Floor
LAn-1828H	Trash Dump	Floor

Source: UCLA Archaeological Information Center 1988; Van Horn et al 1989.